

GEORGETOWN TO SOUTH PARK CONNECTION

CONCEPTUAL ANALYSIS REPORT DRAFT

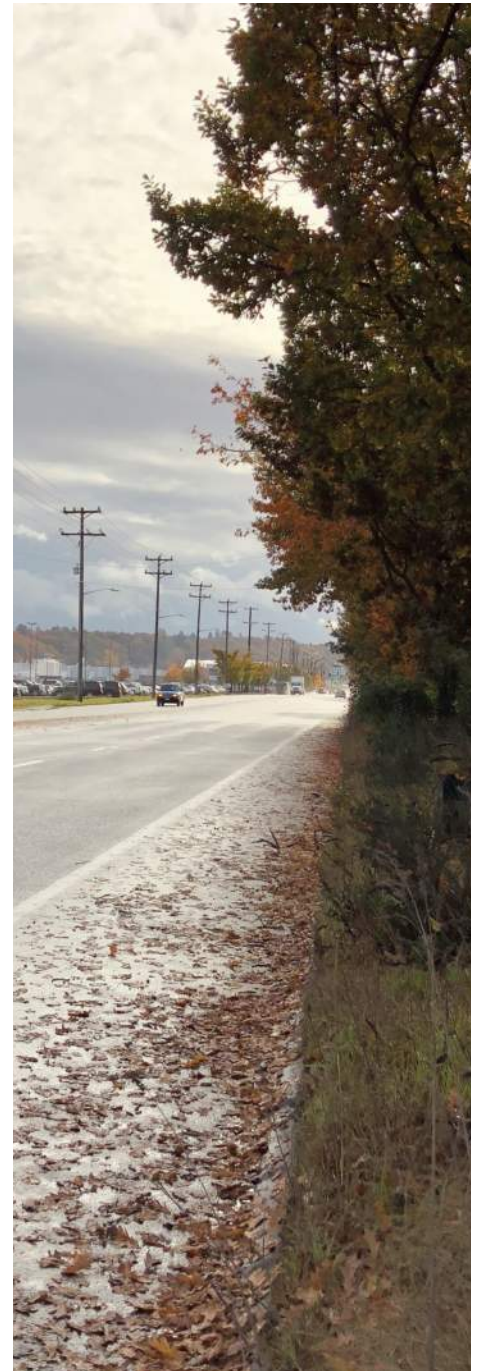


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INTRODUCTION

The City of Seattle, through the Seattle Department of Transportation (SDOT), is looking to develop an all ages and abilities connection for people walking and biking between the Georgetown and South Park neighborhood centers. The City has produced several reports on mobility, open space and opportunities for improvements across city departments including the Georgetown Mobility Study, 2017 and the Open Space Vision and Framework, 2017 which were referenced in the Duwamish Valley Action Plan in June of 2018. The Georgetown Mobility Study, by SDOT, documented the need for a connection between the Georgetown and South Park neighborhood centers as a high priority and identified two future projects:

1. A feasibility assessment to study potential alignments.
2. Final design and construction of the preferred route.

This project report documents the findings of the feasibility assessment and study of potential alignments.

STUDY AREA

The study area for the project extends from the Georgetown neighborhood center south to the South Park Bridge, which is located just north of the South Park neighborhood center; the South Park Bridge opened in 2014 with new sidewalks and on-street bike lanes on both sides of the street, that connect people walking and cycling to the South Park neighborhood center.

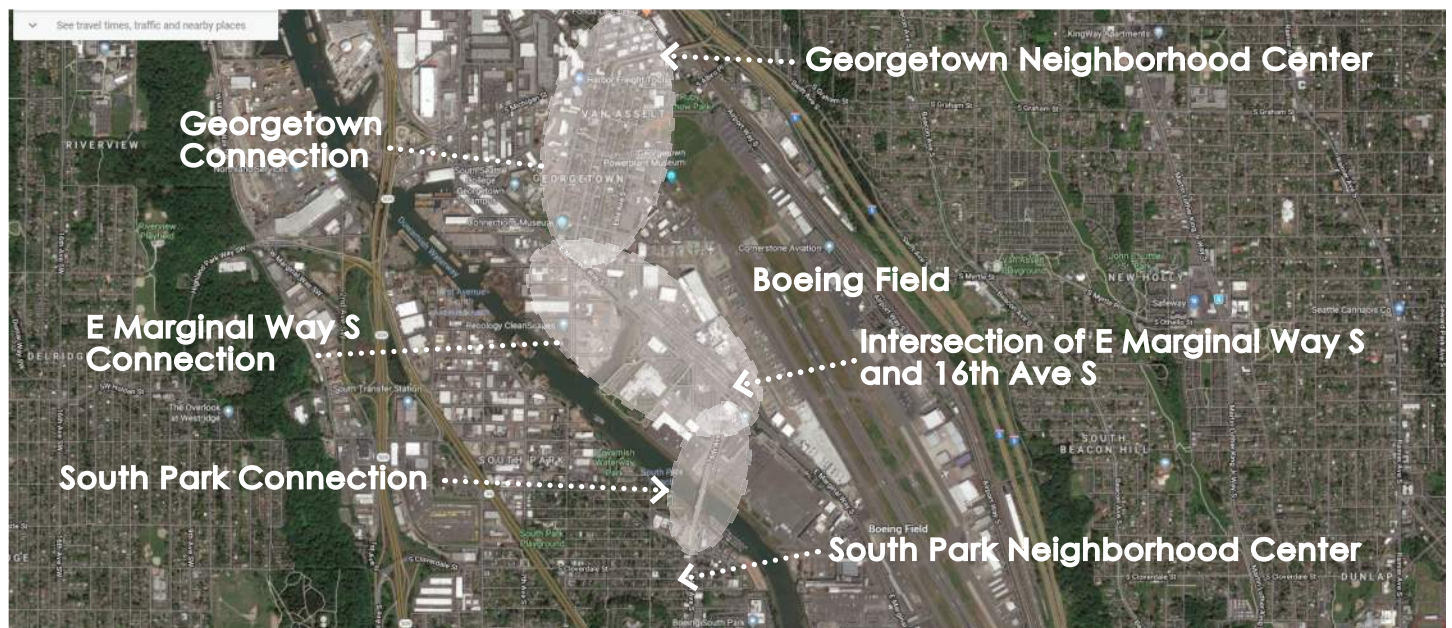
Potential alignments addressed in this report are discussed and evaluated as three segments:

South Park Connection – from the intersection of 14th Ave S and Dallas Ave S to the intersection of 16th Ave S and E Marginal Way S.

E Marginal Way S Connection – from the intersection of 16th Ave S and E Marginal Way S to the intersection of Ellis Ave S and S Myrtle St.

Georgetown Connection – from the intersection of Ellis Ave S and S Myrtle St to the intersection of S Bailey St and 12th Ave S.

Figure 1 - Study area: South Park Bridge to Georgetown Neighborhood Center



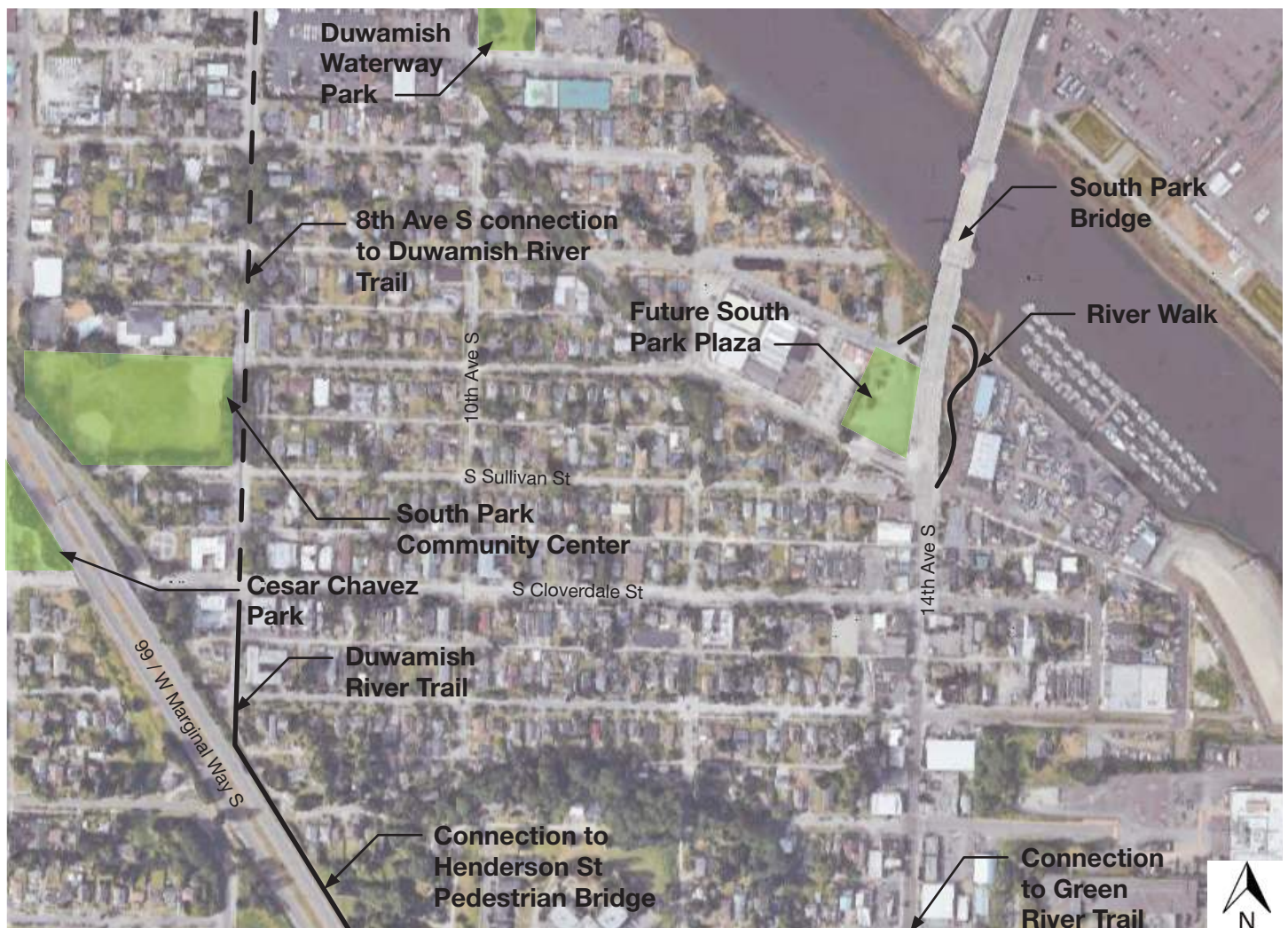
THE SOUTH PARK NEIGHBORHOOD

The City of Seattle’s Outside Citywide initiative published a South Park Neighborhood Profile in February 2019. This summary notes how residents have dedicated a lot of time and energy in recent years to identifying and addressing community priorities for a variety of issues. The community’s priorities as it relates to mobility and transportation are: providing safe pedestrian and bicycle routes, traffic calming and safety along trucking routes and speedways, and creating a comfortable street edge environment.

The South Park bridge constructed in 2014 provides improved access for all modes to and from South Park and the Duwamish Trail also provides recreational access to and from the neighborhood.

The map of South Park’s neighborhood center shown in Figure 2 below identifies trail and transportation connections and the location of neighborhood parks.

Figure 2 - Map of South Park Neighborhood



THE GEORGETOWN NEIGHBORHOOD

The Georgetown neighborhood has gone through several recent planning projects, including the Georgetown Mobility Study and Open Space Vision and Framework Plan, to document opportunities to improve neighborhood connections, safety, and access to and from services and stores in the neighborhood center.

The map of Georgetown’s neighborhood center shown in Figure 3 below identifies neighborhood parks, including the Georgetown Festival Street. The neighborhood center does not have any all ages and abilities facilities for people biking.

Figure 3 - Map of Georgetown Neighborhood Center



EXISTING TRANSPORTATION NETWORK

As a part of this feasibility assessment we have reviewed the City of Seattle's Streets Illustrated and Seattle's Right-of-Way Improvement Manual to document transportation characteristics along potential routes within the study area. The following paragraphs summarize characteristics of key arterial streets from Streets Illustrated maps. Key streets within the study area include: 16th Ave S, E Marginal Way S, Ellis Ave S, S Myrtle St, and S Albro Pl.

The feasibility assessment also included reviewing the SDOT Bicycle and Pedestrian Safety Analysis (BPSA) project, completed in 2016, which identified locations to prioritize safety improvements for people walking and biking. The BPSA identified high-ranking pedestrian and bicycle locations to focus non-motorized improvements; however, none of the identified locations are located along potential alignments described in this report.

Street Classification

The functional classification of a street focuses on use and operation (i.e. arterial, non-arterial, etc). The most direct route between the neighborhoods is on principal arterials, which carry heavy volumes of vehicle traffic. These arterials are not a comfortable route for users of all ages and abilities without bike and pedestrian facilities from the roadway. The following arterials are located in the project area:

- Principal Arterial: 14th Ave S, 16th Ave S, E Marginal Way S, Ellis Ave S (south of S Albro Pl), and S Albro Pl
- Minor Arterial: Corson Ave S and S Myrtle St (between E Marginal Way S and Ellis Ave S)

Street Type

The City of Seattle's designation of street type is based on the adjacent land uses and envisioned character of the street and is used as a guide for both future development and capital infrastructure projects. The project area includes the following street types:

- Urban Center Connector: Ellis Ave S (north of S Warsaw St), S Albro Pl
- Industrial Access: 14th Ave S, 16th Ave S, E Marginal Way S and Ellis Ave S (south of S Warsaw St)
- Minor Industrial Access: S Myrtle St (east of Ellis Ave S).



Freight Routes

Freight routes are arterial streets that serve truck mobility and connectivity; the freight network designation considers land uses that serve trucks. Key freight routes through the project area that need to be maintained include 14th Ave S, 16th Ave S, and E Marginal Way S (major freight route); S Bailey St (limited access route); and S Myrtle St between E Marginal Way S and Ellis Ave S (industrial freight route).

Transit Routes

Streets that serve bus routes in the study area include: 14th Ave S, 16th Ave S, E Marginal Way S, Ellis Ave S (south of S Albro Pl), S Albro Pl, and 13th Ave S.

Sidewalk Conditions

Current sidewalk conditions in the project area lack sidewalks in areas and/or have several obstructions that limit user's access and mobility; a map in the Georgetown Mobility Study documents sidewalk obstructions and streets with missing sidewalks.

Existing Bike Network

There are bike lanes on S Albro Pl, Ellis Ave S, E Marginal Way, 16th Ave S and 14th Ave S in the study area; however, given the level of freight use, vehicle volumes, and traffic speeds, these bike lanes do not provide adequate protection for people of all ages and abilities as defined in the Seattle Bicycle Master Plan.

Proposed Bike Network

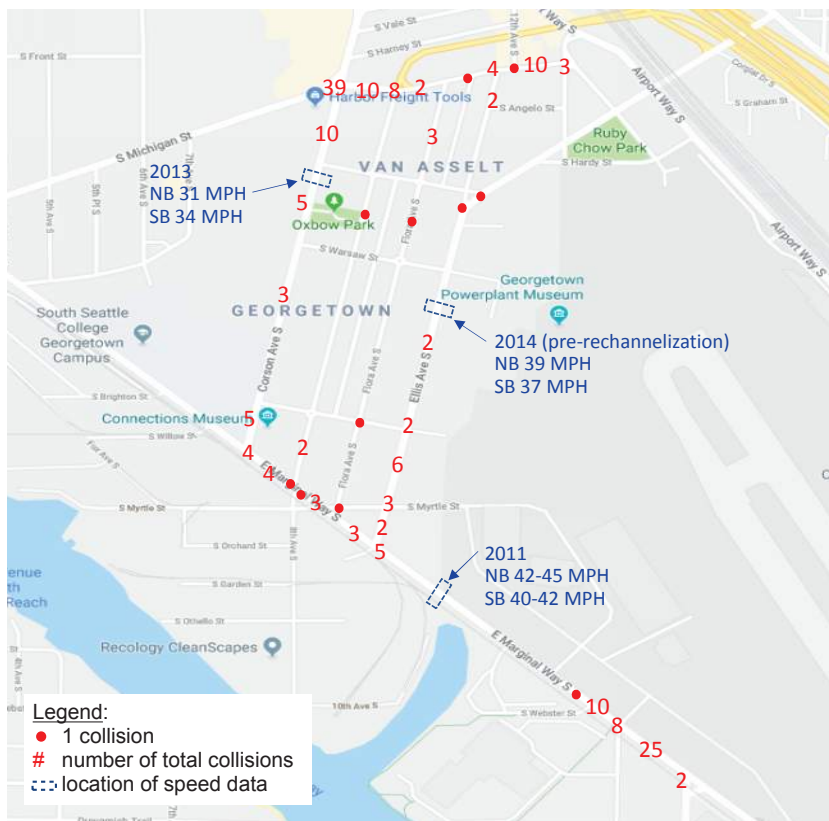
Proposed bike facilities are shown in the 2014 City Bicycle Master Plan and include protected bike lanes on S Albro Pl/Ellis Ave S and E Marginal Way S.



EXISTING COLLISION & SPEED DATA

SDOT provided sorted collision data from January 2013 to December 2017 and past speed studies from the project area. Figure 4 provides a map of collisions by block segment and intersection and 85th percentile speeds from past speed studies. Figure 5 summarizes the number of collisions and associated injuries along each corridor and separates collisions involving pedestrians and bicyclists.

Figure 4 - Map of collision and speed data



Speed Limits Throughout Project Area

35 MPH

E Marginal Way S

30 MPH

Ellis Ave S

S Albro Pl

Corson Ave S

S Myrtle St

16th Ave S

14th Ave S

20 MPH

All residential, non-arterial streets

Figure 5 - Summary of collisions and injuries by street corridor table

Street Corridor	All Collisions			Bike/Ped Related Collisions			
	No. of Collisions	No. of Collisions with Injuries	Percent of Collisions with Injuries	No. of Collisions	Percentage of Collisions that include Bike/Ped	No. of Collisions with Injuries	Percent of Collisions with Injuries
E Marginal Way	74	35	47%	3	4%	3	100%
Corson Ave S	66	23	35%	5	8%	4	80%
Carleton Ave S	12	0	0%	1	8%	0	0%
Flora Ave S	6	1	17%	0	n/a	n/a	n/a
Ellis Ave S	28	9	32%	1	4%	1	100%
S Bailey St	39	8	21%	5	13%	3	60%

EXISTING STREET CROSS SECTIONS

In addition to reviewing existing city planning documents and available GIS information we conducted site visits, walking potential routes, to confirm the context and condition along existing streets. The following street sections depict typical existing sections, based on available GIS information and limited field measurements, along the potential routes from the South Park neighborhood center, at the intersection of 14th Ave S and Dallas Ave S, to the Georgetown neighborhood center, at the intersection of S Bailey St and 12th Ave S.

Figure 6 - (SP1) 14th Ave S: South Park Bridge

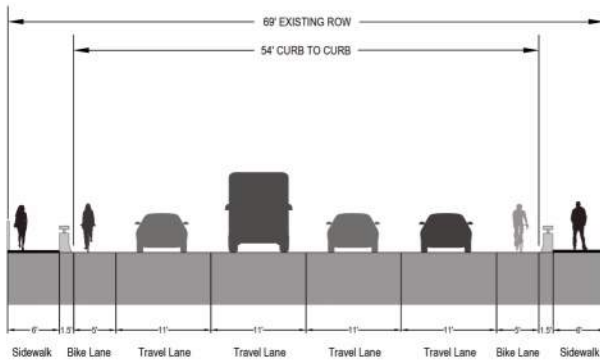
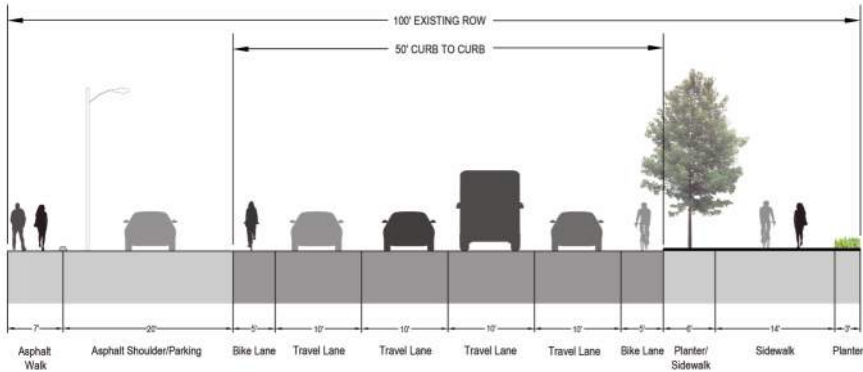


Figure 7 - (SP2) 16th Ave S: South Park Bridge (North Approach) to E Marginal Way S



Existing street key map



EXISTING CROSS SECTIONS

Figure 8 - (EMW1) E Marginal Way S: 16th Ave S to S Webster St

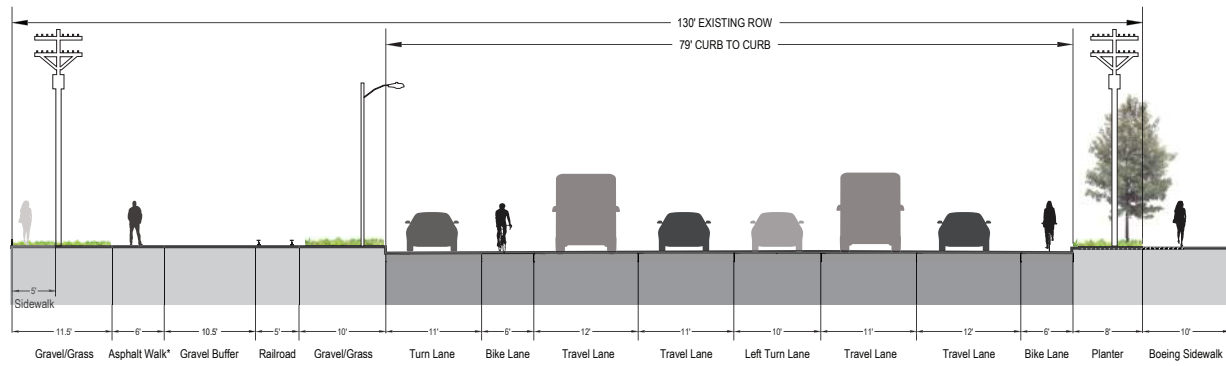
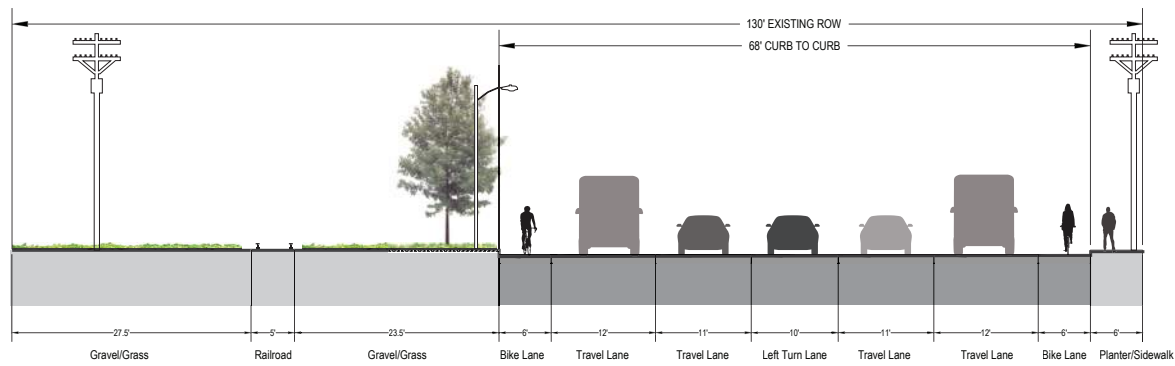
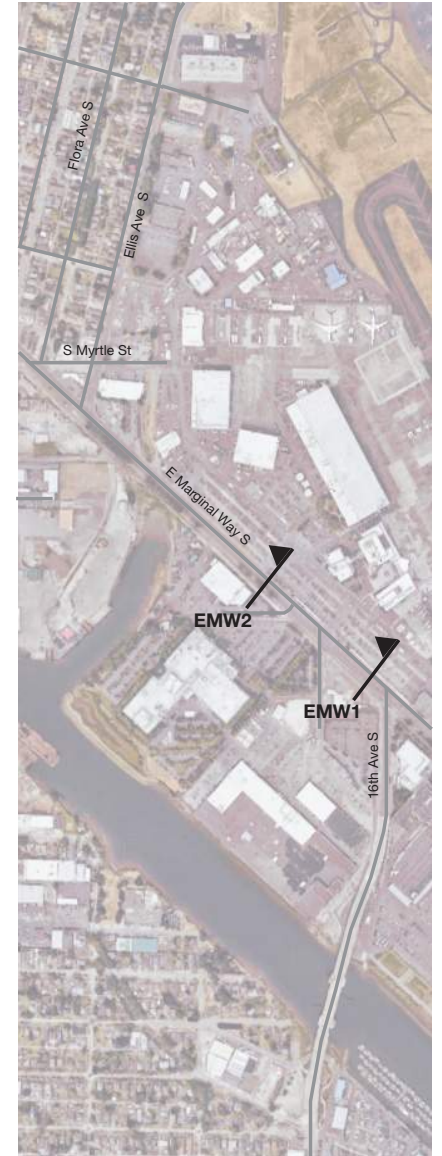


Figure 9 - (EMW2) E Marginal Way S - S Webster St To Railroad Switches



Existing street key map



EXISTING CROSS SECTIONS

Figure 10 - (EMW3) E Marginal Way S: Railroad Switches to Ellis Ave S

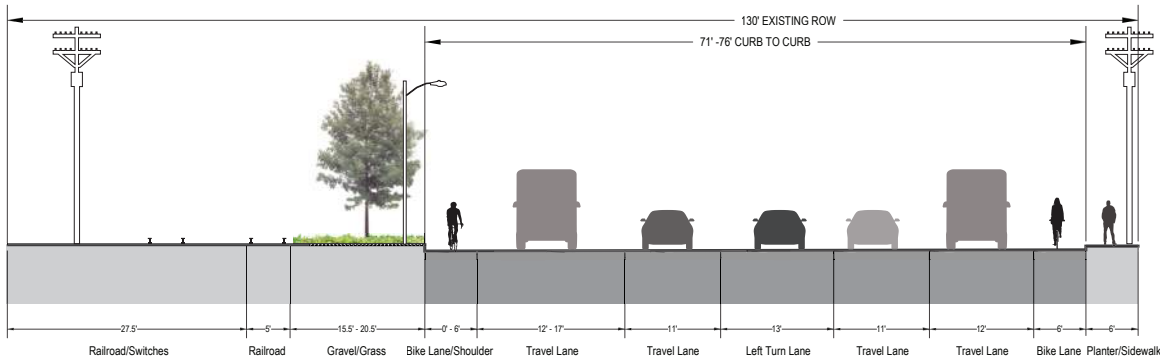


Figure 11 - (EMW4) Ellis Ave S: E Marginal Way S to S Myrtle St

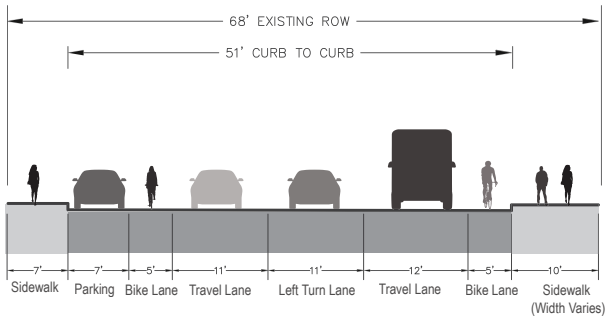
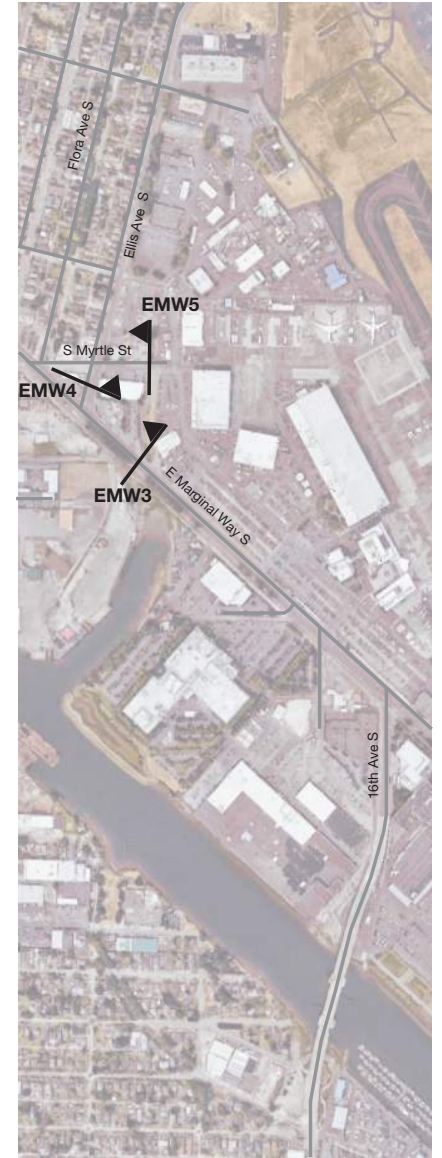
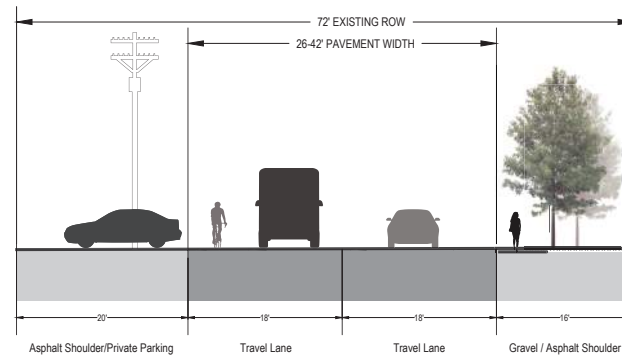


Figure 12 - (EMW5) S Myrtle St: E of Ellis Ave S



EXISTING CROSS SECTIONS

Figure 13 - (GT1) Ellis Ave S: S Myrtle St to S Eddy St

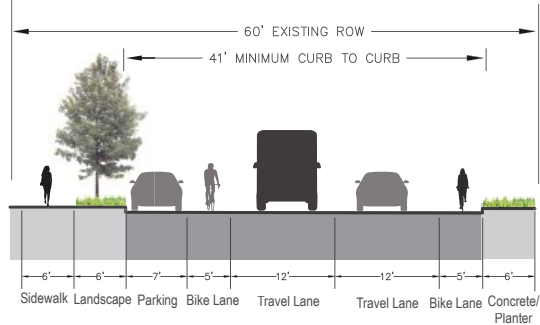


Figure 14 - (GT2) Ellis Ave S: S Eddy St to S Bailey St & Flora Ave S: S Myrtle St to S Eddy St

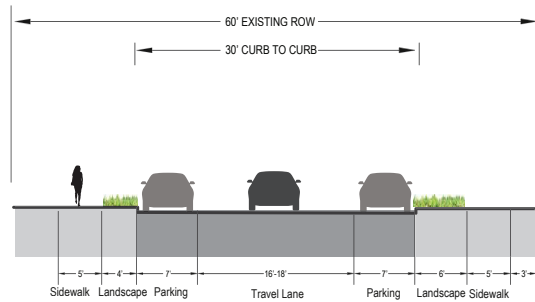


Figure 15 - (GT3) S Albro Pl: S Eddy St to 13th Ave S

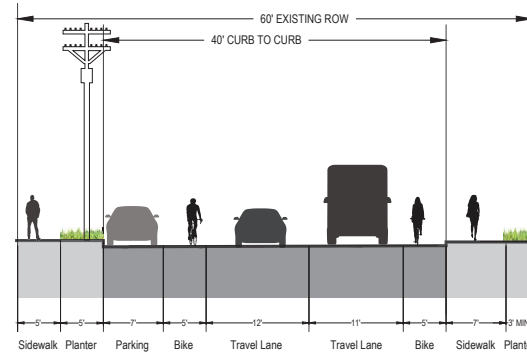


Figure 16 - (GT4) 13th Ave S: S Albro Pl to S Bailey St

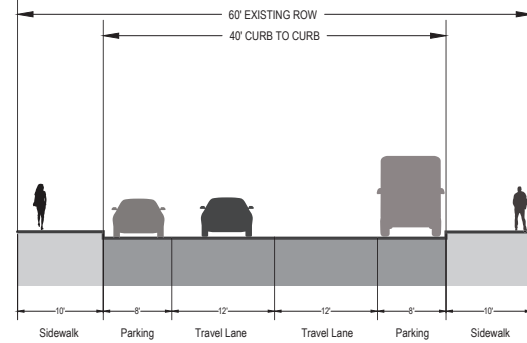
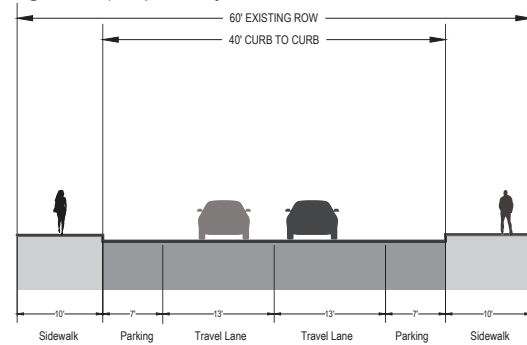


Figure 17 - (GT5) S Bailey St: 13th Ave S to Ellis Ave S



Existing street key map



THE FLUME

The Duwamish Valley Action Plan provides a brief history of the ‘Flume’ property, which is part of an abandoned 2,500-foot-long ditch system that discharged cooling water from a steam plant to the Duwamish River at Slip 4. The ‘Flume’ Property went into disuse when the plant closed in the 1960s. In 2008 Seattle City Light (SCL), who owns the property, cleaned up contaminants as part of early actions to clean up the Duwamish River’s Superfund site Slip 4.

The Duwamish Valley Action Plan also acknowledges that opportunities for new open space in Georgetown are limited. During the Georgetown Open Space Vision Framework process, community members identified the ‘Flume’ property as both an important pedestrian link between S Myrtle St and E Marginal Way S and a potential location for an Off-Leash Area. Within the Georgetown Mobility Study the ‘Flume’ property is envisioned as a pedestrian link providing access to E Marginal Way S and existing bus stops.

As it relates to this feasibility study the ‘Flume’ property provides a direct connection from E Marginal Way S to Ellis Ave S (via S Myrtle St) allowing people walking and biking to bypass the intersection of E Marginal Way S and Ellis Ave S. The potential alignments along the north side of E Marginal Way S (presented later in this report) are dependent on the use of the ‘Flume’ property as they allow a pedestrian and bicycle connection to bypass driveways that serve the gas station and heavy vehicular traffic turning from westbound E Marginal Way S to northbound Ellis Ave S.

‘Flume’ property looking north from E Marginal Way S



EXISTING RAILROAD & OPERATIONS

An active railroad runs alongside E Marginal Way S. Based on available information from SDOT and the Federal Rail Administration (FRA), trains moving through the project area operate at slow speeds, typically 5 to 10 miles per hour with a maximum of 10 miles per hour. During site visit we observed trains accompanied by on-site flaggers walking with moving trains, however, we understand not all trains are walked by a flagger. Train horns are used where the railroad crosses driveways and streets to alert users of the oncoming train.

The FRA provides crossing inventory reports that describe the railroad operations at street and driveway crossings. According to the crossing inventory reports, revised in November 2018, the trains traveling along the E Marginal Way S corridor are typically switching trains that utilize railroad switches to access individual properties. Railroad switches are located in the following three locations within the project area: between Ellis Ave S and the Cedar Grove driveway, north of Carleton Ave S and south of 16th Ave S. The following information from FRA crossing inventory reports documents the type and approximate frequency of trains at the following street and driveway crossings along E Marginal Way S:

- 16th Ave S: 4 switching trains*
- 14th Ave S: 4 switching trains*
- Cedar Grove: 5 trains per week, 1 through train per day, 1 through train per night, 2 switching trains
- S Webster St: 4 switching trains*
- S Myrtle St: 4 switching trains*

*FRA reports did not clarify if these numbers were per day or per week.

Switches provide train access to industrial sites



COMMUNITY OUTREACH

Outreach and community involvement have been central in the planning of the future Georgetown to South Park connection. The City of Seattle has produced several reports on mobility, open space and opportunities for improvements including the following:

Duwamish Valley Action Plan (2018, City of Seattle): created by the City of Seattle’s Duwamish Valley Program (DVP), a multi-departmental effort led by the Office of Sustainability & Environment (OSE) and the Office of Planning & Community Development (OPCD), this plan documents the community’s and City’s shared vision to promote collaboration and guide investment in the Duwamish Valley. Focused on the Duwamish Valley neighborhoods of South Park and Georgetown, the program is driven by environmental justice guiding principles, racial equity outcomes, community input, and community-led plans.

Georgetown Mobility Study (2017, SDOT): focuses on evaluating and identifying opportunities for street improvements to increase safety and health and improve access for all users.

Open Space Vision and Framework (2017, Seattle Parks Foundation): focuses on improvements to open spaces to provide public green space in order to improve the quality of life for community members.

Outside Citywide: South Park Neighborhood Profile (2019, Seattle Office of Planning & Community Development): captures the characteristics and conditions of the South Park neighborhood and the community’s vision for improving public space in South Park including: neighborhood greening, creating opportunities to walk or bike to parks and to play, gather, and socialize, and for improving access to nature and water. The profile is based on several community events that took place in the summer of 2018.

For the feasibility analysis and study of potential alignments to provide a Georgetown to South Park connection, a stakeholder workshop was held in August 2018 to verify project goals and objectives and discuss potential route alignments and opportunities.

Key feedback from this workshop included:

- The community desire for an all ages and ability connection that is convenient and accessible between the Georgetown and South Park neighborhood centers.
- The preference for a facility or trail that is both safe and aesthetically pleasing and provides environmental benefits (e.g. a trail that adds street trees and planting area as buffers between people walking and biking and motorized vehicles).
- Concerns were voiced about being uncomfortable walking/biking alongside trains, particularly due to the noise from train horns.
- General preference for locating proposed improvements along the north/east side of E Marginal Way S along Boeing with the development of the “Flume” property.

TRAFFIC DATA COLLECTION & ANALYSIS

Traffic counts were collected in September 2018 at key intersections to facilitate the evaluation of proposed improvements and the impacts of new non-motorized facilities on existing traffic. Traffic data was collected at the following locations and is illustrated in Figure 18:

- 16th Ave S and E Marginal Way S
- 14th Ave S and E Marginal Way S
- Boeing driveways on E Marginal Way S north of 14th Ave S
- Ellis Ave S and E Marginal Way S
- Ellis Ave S and S Myrtle St

Figure 19 summarizes recorded turning movement counts.

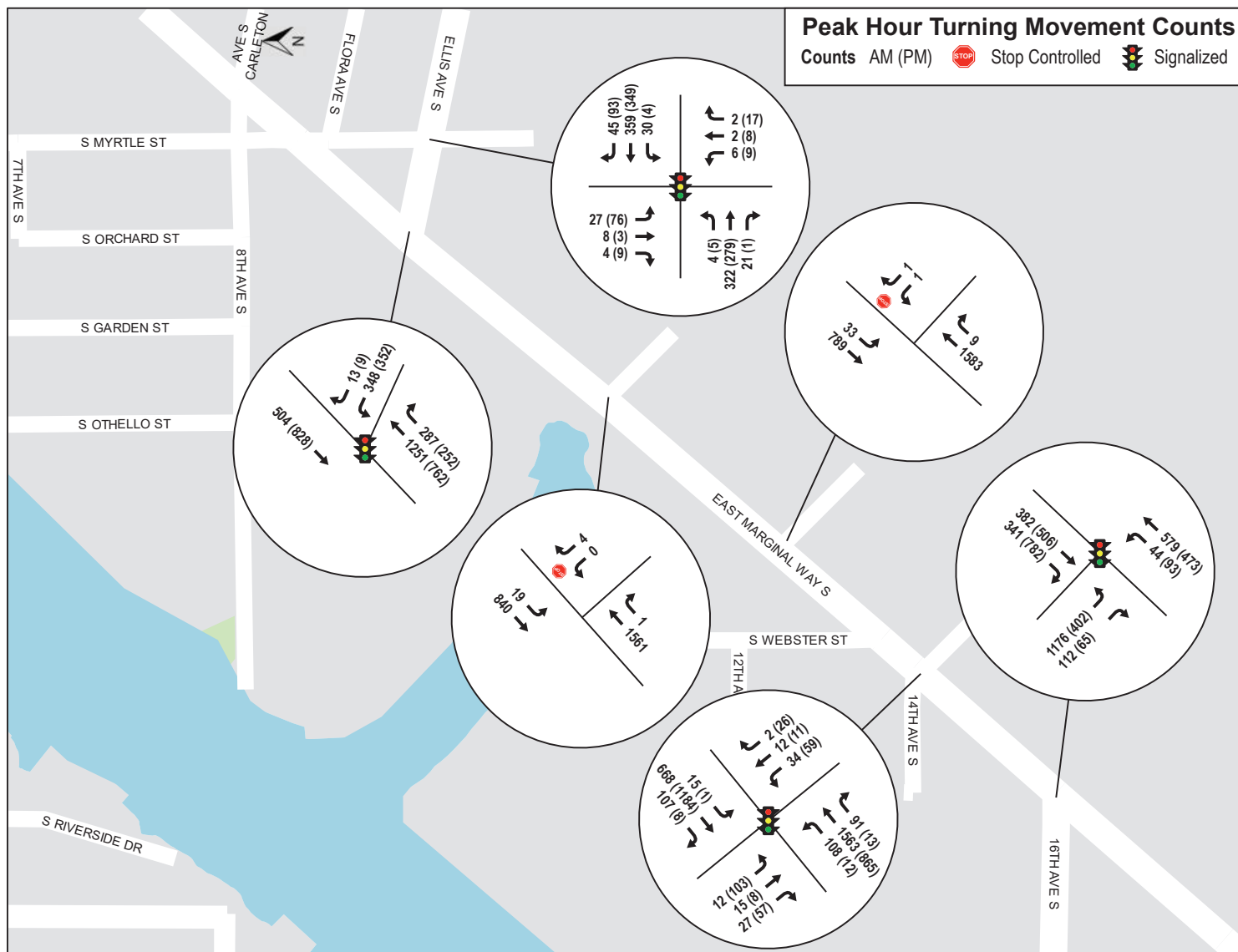
The existing level of service and delay at each intersection was determined using signal timing cards provided by SDOT and field traffic count data. The future level of service and delay was estimated using traffic modeling with added crosswalks or signal phases to support potential non-motorized connections.

The following pages summarize findings for each of the intersections evaluated; it is anticipated that additional traffic analysis will be required after a preferred alignment has been identified.

Figure 18 - Map of locations for traffic data collection



Figure 19 - Peak Hour Turning Movement Counts



Existing Street Keymap



Yellow area shown in Peak Hour Turning Movement Counts Diagram

16th Ave S and E Marginal Way S

There are no crosswalks at this intersection. Analysis at this intersection included the addition of crosswalks at the south and east legs of the intersection to provide at-grade crosswalks for people walking and riding bicycles. The south crosswalk was presumed to have a protected pedestrian phase (no right on red), restricting eastbound to southbound right turn movements. The east crosswalk was adjusted to provide a leading pedestrian interval (3 seconds). Figure 21 summarizes the AM and PM intersection Level of Service (LOS) and Delay (in seconds) in the existing condition to add crosswalks.

Note: Existing Boeing Tunnels, approximately 500-feet east of the intersection and 350-feet south of the intersection, can be used by the public and allow access to the north side of E Marginal Way S and allow people to cross 16th Avenue S; however, the tunnels are not ADA accessible with running slopes and cross slopes exceeding ADA requirements.

Figure 20 - Model phasing diagram

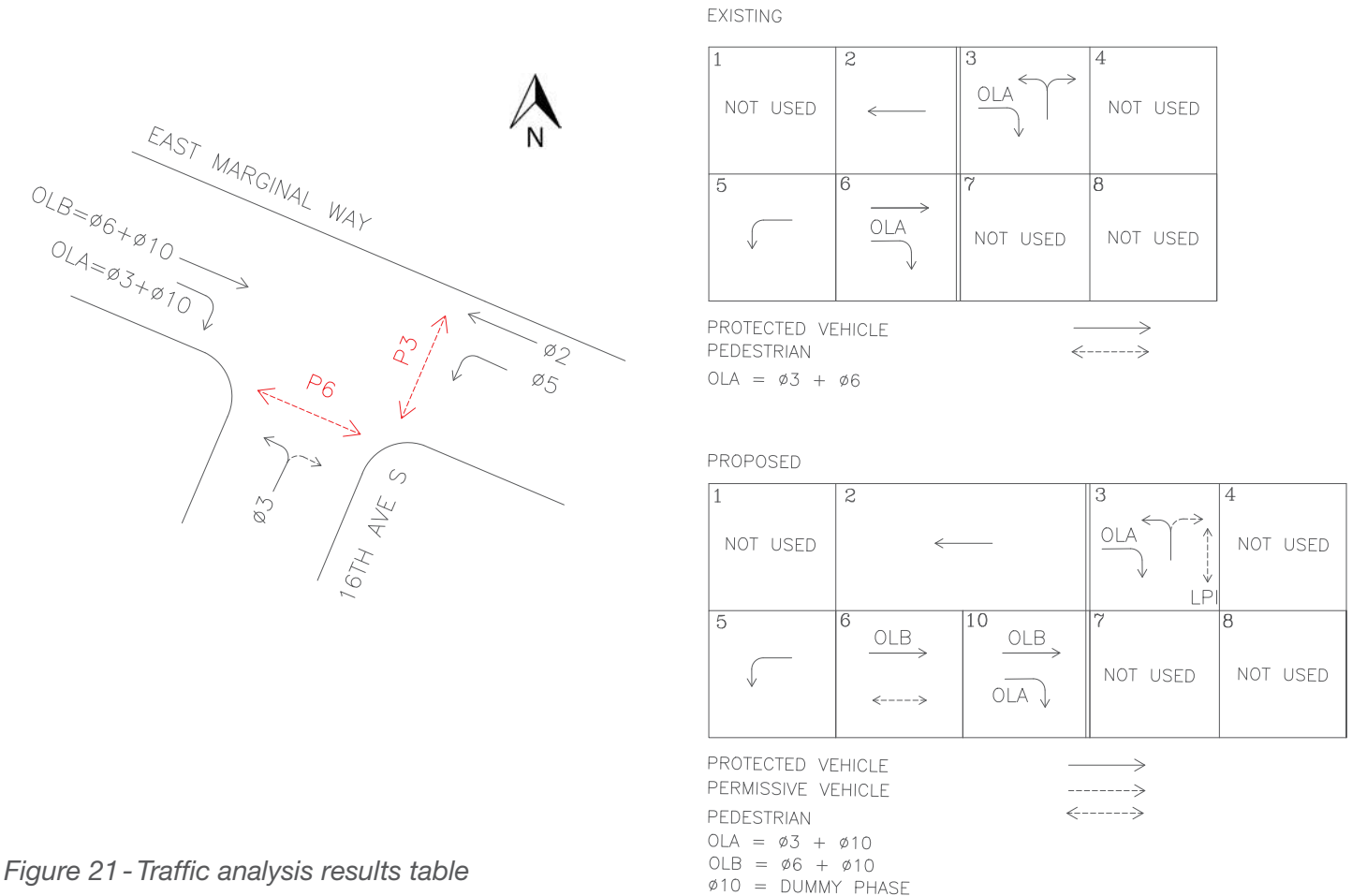


Figure 21 - Traffic analysis results table

E Marginal Way S & 16th Ave S	AM		PM	
	Delay	LOS	Delay	LOS
Existing Condition	27	C	17	B
Add South and East Side Crosswalk with a Protected Pedestrian Phase for South Side Crossing (No Right Turn on Red for East Bound Right) and a 3 second Leading Pedestrian Interval for East Side Crossing	38	D	25	C

14th Ave S and E Marginal Way S and Boeing Driveways

This intersection, which provides the only signal controlled access to Boeing, was evaluated to determine impacts to traffic operations resulting from restricting driveway access along E Marginal Way S to right in/right out only. To provide a safe bicycle facility on the northbound side of E Marginal Way S, two Boeing driveways located north of the intersection were restricted to right in/right out only. Video cameras were installed to document the number of vehicles that would be diverted from turning left at the driveways to turning left at 14th Ave S during the AM peak hour (7:30-8:30).

Analysis at this intersection evaluated the impacts to traffic operations where 52 southbound left turning vehicles (based on counts) are diverted from the Boeing driveways to 14th Ave S during the AM peak hour. Figure 23 summarizes the AM intersection LOS and Delay (in seconds) in the existing condition and to accommodate additional left turning vehicles.

Figure 22 - Model phasing diagram

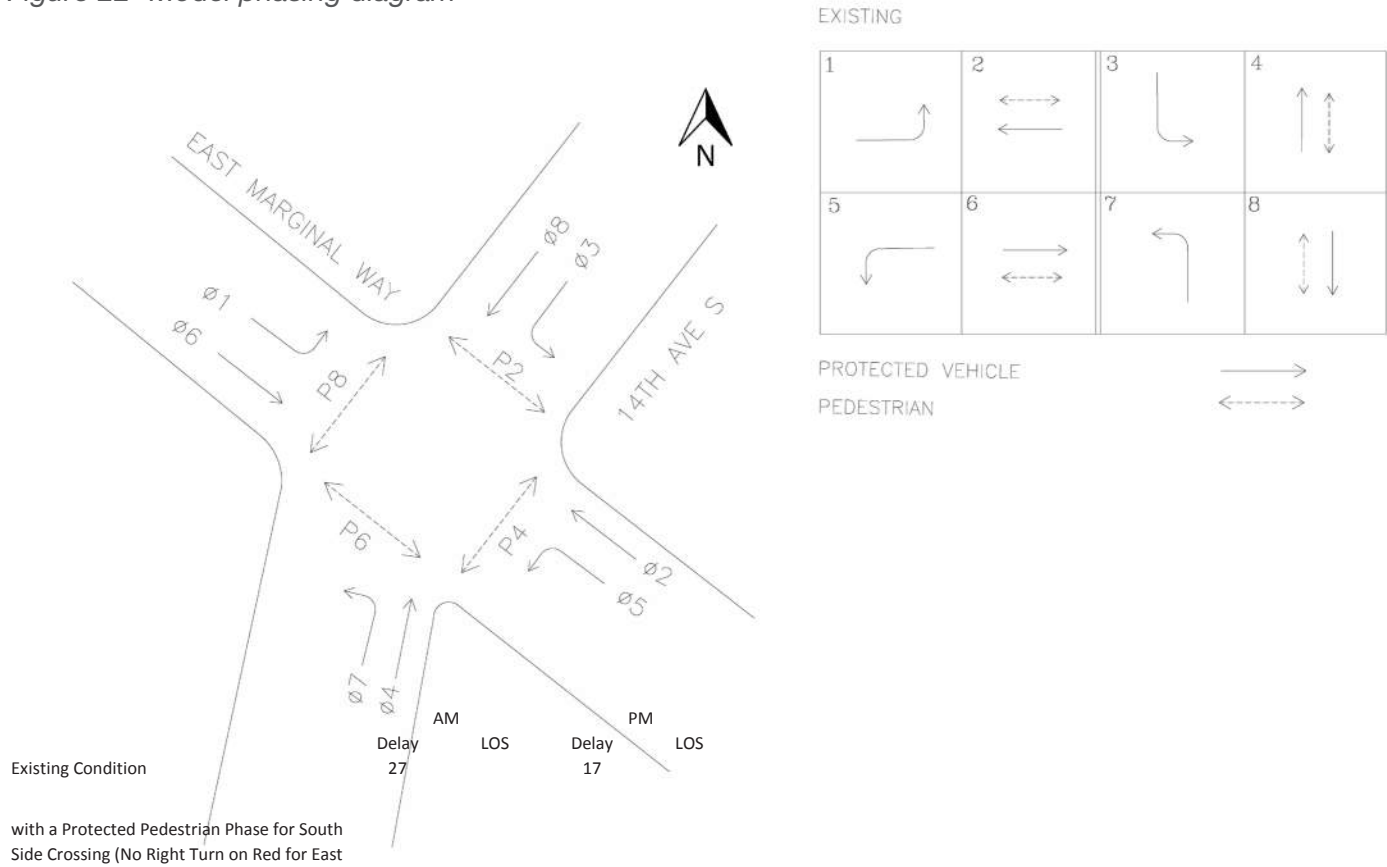


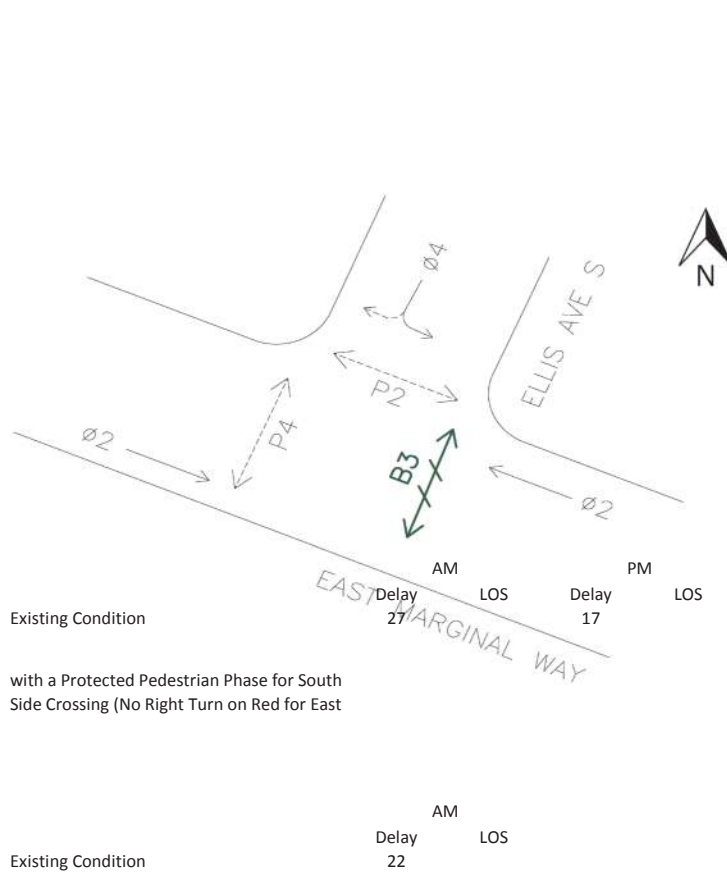
Figure 23 - Traffic analysis results table

E Marginal Way S & 14th Ave S	AM	
	Delay	LOS
Existing Condition	22	C
Divert Boeings South Bound Left Turn volume (52vehs/hr) to 14th Ave S (AM only)	28	C

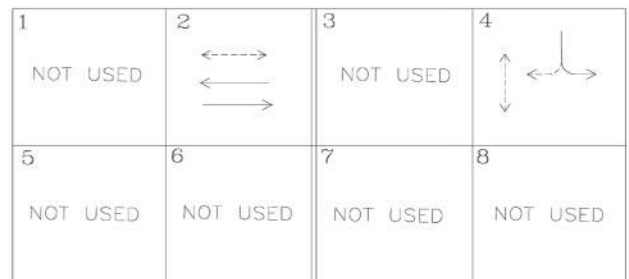
Ellis Ave S and E Marginal Way S

This intersection has existing crosswalks on the north and west legs of the intersection. This intersection was evaluated to add a new crosswalk on the east leg of the intersection, which could potentially reduce the number of street crossings for people walking and riding bicycles depending on the final alignment selected. To provide a protected crossing, right turns on red would be restricted for westbound traffic turning right from E Marginal Way S to Ellis Ave S. Figure 25 summarizes the AM and PM intersection LOS and Delay (in seconds) in the existing condition and the addition of a new dedicated bike crossing.

Figure 24 - Model phasing diagram

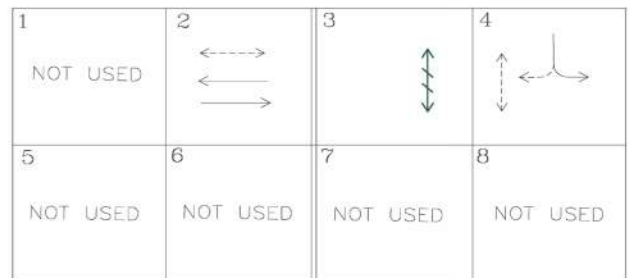


EXISTING



PROTECTED VEHICLE →
 PERMISSIVE VEHICLE - - -
 PEDESTRIAN - - - X

ALTERNATIVE



PROTECTED VEHICLE →
 PERMISSIVE VEHICLE - - -
 PEDESTRIAN - - - X
 BICYCLE - - - X

Figure 25 - Traffic analysis results table

E Marginal Way S & Ellis Ave S	AM		PM	
	Delay	LOS	Delay	LOS
Existing Condition	16	B	13	B
Add Dedicated Bike Crossing on East Side with No Right Turn on Red for the West Bound Right movement	26	C	22	C

AM Delay LOS PM Delay LOS

Ellis Ave S and S Myrtle St

The existing condition at this intersection has crosswalks on all four legs. A diagonal crossing was evaluated for people walking and riding bicycles from the southwest corner to the northeast corner.

To provide a diagonal crossing for people walking a dedicated signal phase with 7 seconds walk time and 27 seconds of flash Don't Walk time was evaluated. A longer vehicular cycle was provided to accommodate the new diagonal bike and pedestrian phase and offset vehicle delay for traffic on Ellis Ave S, increasing cycle times from 55 seconds to 110 seconds in the AM and 100 seconds in the PM. Figure 27 summarizes the AM and PM intersection LOS and Delay (in seconds) in the existing condition and to accommodate a diagonal crossing.

Figure 26 - Model phasing diagram

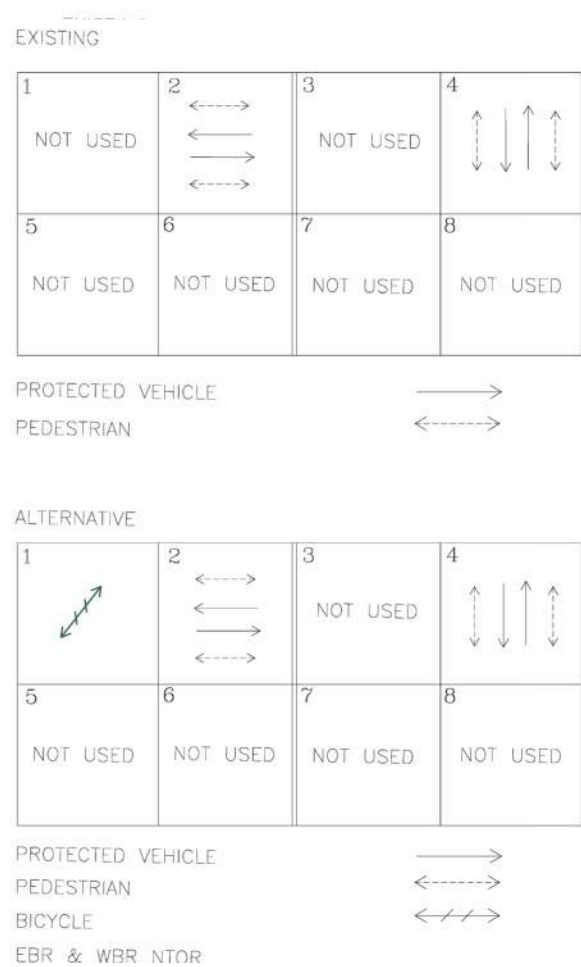
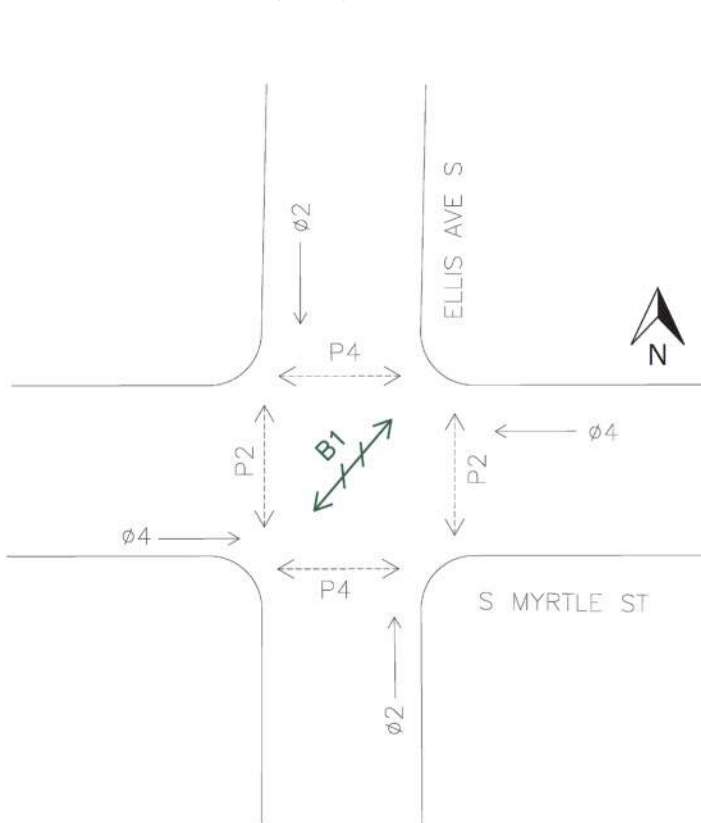


Figure 27 - Traffic analysis results table

S Myrtle St & Ellis Ave S	AM		PM	
	Delay	LOS	Delay	LOS
Existing Condition	7	A	7	A
Add Diagonal Bike and Pedestrian Crossing	18	B	22	C

FACILITY TYPES

The goal of the Georgetown to South Park connection is to provide an all ages and abilities facility for people walking and riding bicycles. The walking and biking facility types being considered to provide this connection are a shared use path, a protected bike lane (which would be paired with a sidewalk to provide space for walking), and a neighborhood greenway.

A **shared use path** typically provides a minimum 5-foot horizontal separation from the roadway and is a shared path for both walking and riding bicycles. In addition to providing separation from traffic, the setback from the roadway also provides opportunity for planting and street trees, which is consistent with the type of safe and comfortable experience the community has envisioned.

A **neighborhood greenway** provides a safe and comfortable connection on low speed and low volume streets with traffic calming improvements such as pavement markings, speed humps, diverters, and wayfinding signage.

A **protected bike lane** (PBL) combines the user experience of a multi-use trail with a conventional bike lane. They have different forms, but all share common elements providing space that is used for bicycles and is physically separated from vehicle travel lanes, parking lanes and sidewalks. Pedestrians are accommodated on separate sidewalks.

Figure 28 - Shared use path



Google Maps
Figure 29 - Neighborhood greenway



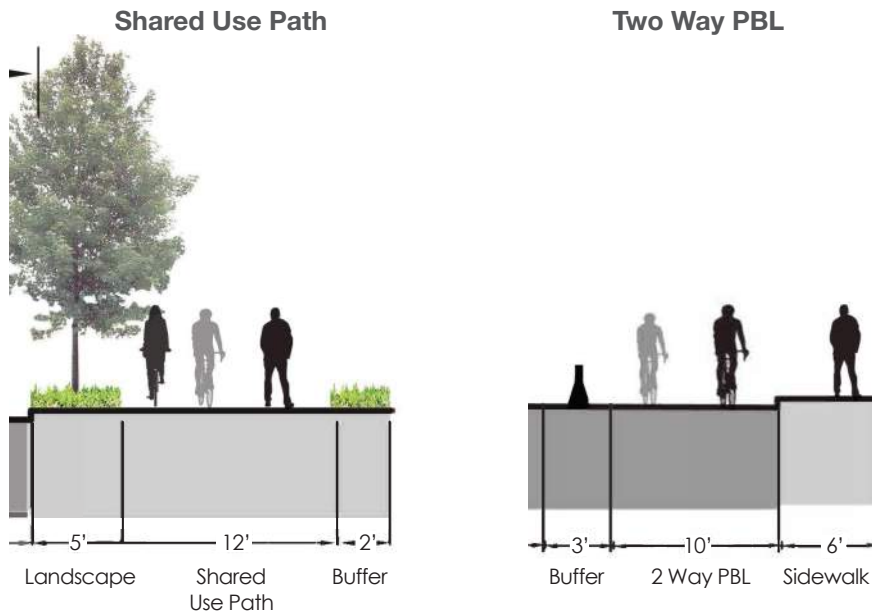
Google
Figure 30 - Protected bike lane



SHARED USE PATH VS. PROTECTED BIKE LANE (PBL)

The space to provide a shared use path versus a two-way protected bike lane and sidewalk is similar. For the purposes of this report, and to align with community goals discussed at the community stakeholder workshop, a shared use path has been shown in potential alignments where feasible. However, depending on site context and project specific constraints, including funding, it may be more appropriate to provide a two-way protected bike lane and sidewalk. Typically, a shared use path will require the relocation of an existing curb and impact existing drainage infrastructure, whereas as a two-way protected bike lane can be provided by installing a vehicular barrier and maintaining most of the existing storm drainage.

Figure 31 - Comparison of Space for Shared Use Path and Two-Way Protected Bike Lane






POTENTIAL ALIGNMENTS

A variety of routes, cross sections, and facility types were explored to connect the Georgetown and South Park neighborhood centers, based on the context, street type, and classification of each corridor in the project area. This section summarizes potential alignments and cross sections that were developed. For the purposes of summarizing and comparing route alignments and alternatives, the neighborhood to neighborhood connection has been divided into three segments:



Georgetown Connection:

from the intersection of Ellis Ave S and S Myrtle St to the intersection of S Bailey St and 12th Ave S.

-  Through Albro
-  Greenway
-  Continue on Ellis



E Marginal Way S Connection:

from the intersection of 16th Ave S and E Marginal Way S to the intersection of Ellis Ave S and S Myrtle St.

-  North Side Trail & North Side PBL
-  Trail by Rail

South Park Connection:

from the South Park Bridge to the intersection of 16th Ave S and E Marginal Way S.

-  West Side Trail
-  One-Way PBL to Bridge



THE SOUTH PARK CONNECTION

The South Park connection extends from the intersection of 16th Ave S and E Marginal Way S to the south approach of the South Park Bridge at 14th Ave S and S Dallas Ave. 16th Ave S varies between E Marginal Way S and the South Park Bridge to accommodate intersection channelization, on street parking, bus stops, right turn lane, and access to the Boeing Tunnels. The typical cross section is shown between the Boeing tunnels and the north approach of the South Park Bridge; during design the project team will work with SDOT to develop a layout that works with each of the different conditions that occurs along 16th Ave S.

Changes to the South Park Bridge will need to be coordinated with King County, owner of the South Park Bridge, to create a seamless connection from 16th Ave S to 14th Ave S.



-  **West Side Trail:** Provides a shared use path facility
-  **One-way to Bridge:** Provides a protected bike lane at sidewalk grade on the east and west side of 16th Ave S



Figure 32 - (SP1) West Side Trail

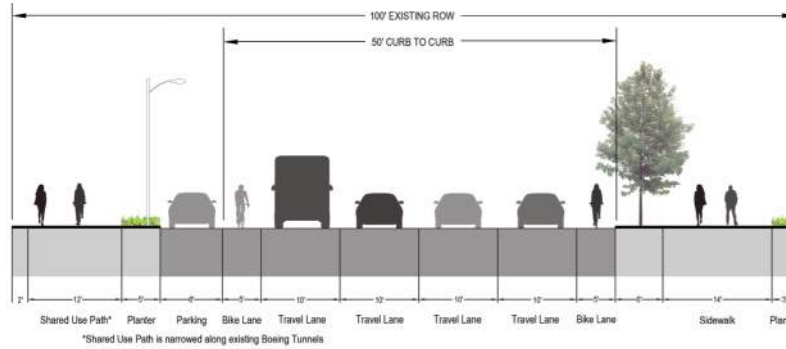
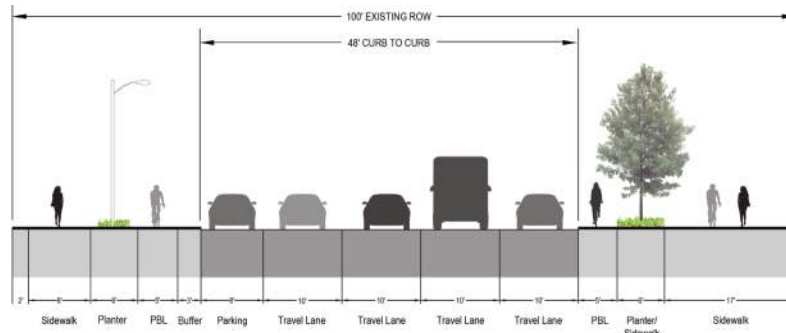


Figure 33 - (SP1) One-Way PBL to Bridge



Looking south along 16th Ave S with access to the Boeing tunnels on the right side of the street.



EAST MARGINAL WAY S CONNECTION

The E Marginal Way S connection extends from the intersection of E Marginal Way S and 16th Ave S to the intersection of Ellis Ave S and S Myrtle St. This segment also includes opportunities to use the “Flume” to provide a safe off-street connection away from busy streets. The Flume property provides a minimum usable width of 40 feet and is included in the North Side Trail and North Side PBL alternatives. Options for each side of E Marginal Way S were analyzed.

Alignments and Typical Sections

The following pages document typical proposed cross sections for each of the three alignments listed below.

Trail by the Rail: provides a shared use path facility



- E Marginal Way S: 16th Ave S to S Webster St
- E Marginal Way S: S Webster St to Railroad Crossing
- E Marginal Way S: Railroad Crossing to Ellis Ave S
- Ellis Ave S: E Marginal Way S to S Myrtle St

North Side Trail: Provides a shared use path facility

- E Marginal Way S: 16th Ave S to S Webster St
- E Marginal Way S: S Webster St to Ellis Ave S
- Flume Connection
- S Myrtle St: East of Ellis Ave S

North Side PBL: Provides a two-way protected bike lane and sidewalk

- E Marginal Way S: 16th Ave S to S Webster St
- E Marginal Way S: S Webster St to Ellis Ave S
- Flume Connection
- S Myrtle St: East of Ellis Ave S

-  North Side Trail & North Side PBL
-  Trail by the Rail



E MARGINAL WAY S CONNECTION - TRAIL BY THE RAIL

The Trail by the Rail takes advantage of underutilized public right-of-way west of the railroad tracks. Existing channelization on E Marginal Way S would remain the same. This alternative provides greater separation from the vehicular traffic that is traveling at a higher speed and volume than the occasional attended train traveling at low speed. The alignment for this alternative is south/west of the railroad from 16th Ave S until the railroad switches near Ellis Ave S. At the railroad switches the alignment crosses the railroad and continues on the north/east side of the railroad to Ellis Ave S. The alignment uses the existing crosswalk at Ellis Ave S to cross E Marginal Way S and continues north to S Myrtle St.

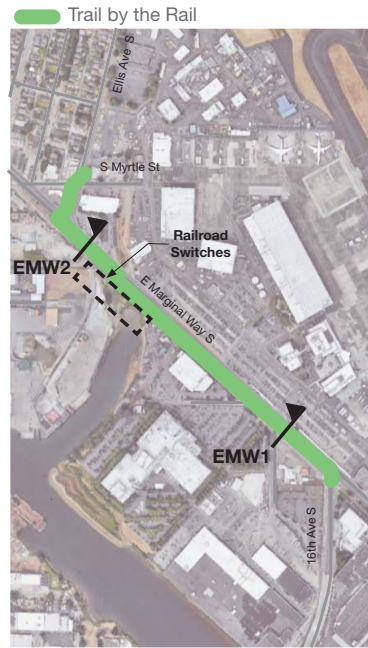


Figure 34 - (EMW1) E Marginal Way S: 16th Ave S to S Webster St

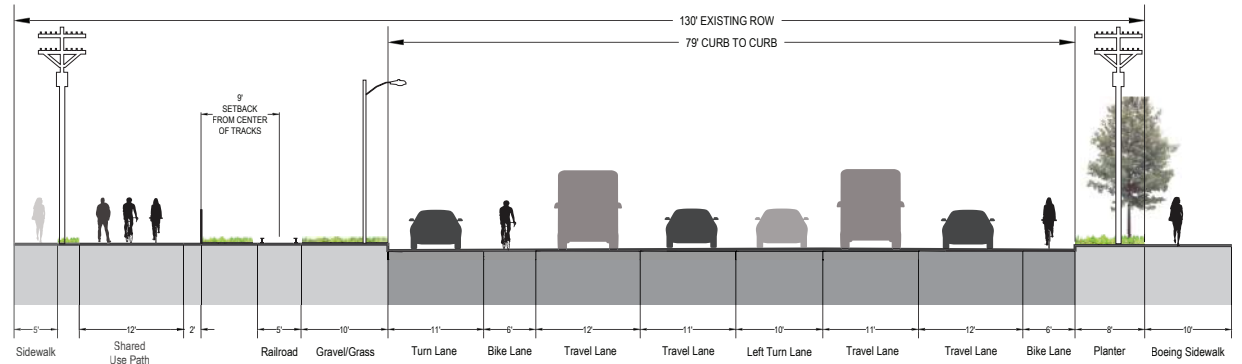
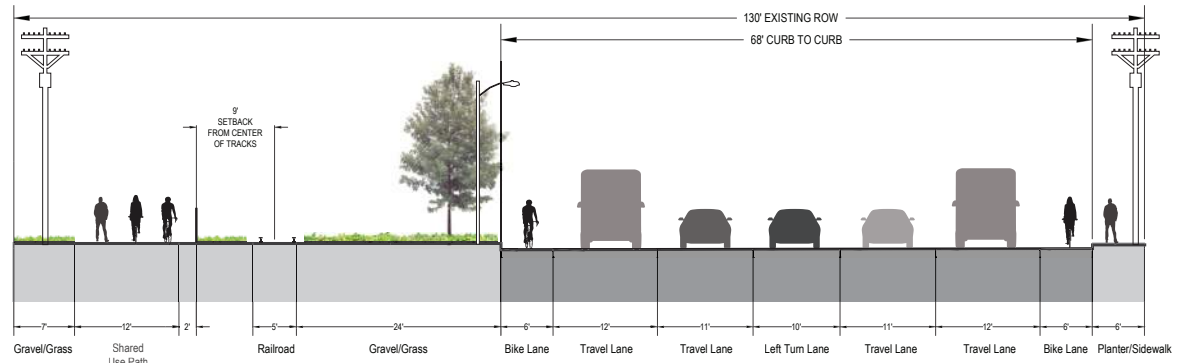


Figure 35 - (EMW2) E Marginal Way S - S Webster St To Railroad Crossing



E MARGINAL WAY S CONNECTION - TRAIL BY THE RAIL

The trail could also cross the railroad tracks at the existing Cedar Grove Composting driveway, south of the switches, to consolidate areas where pavement crosses the railroad tracks. However, this route would require removing additional trees.

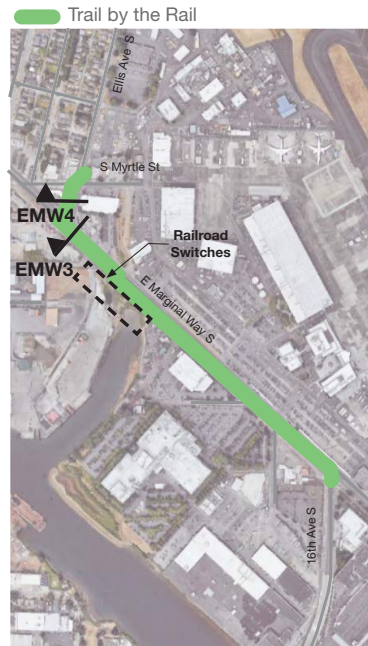


Figure 36 - (EMW3) E Marginal Way S: Railroad Crossing to Ellis Ave S

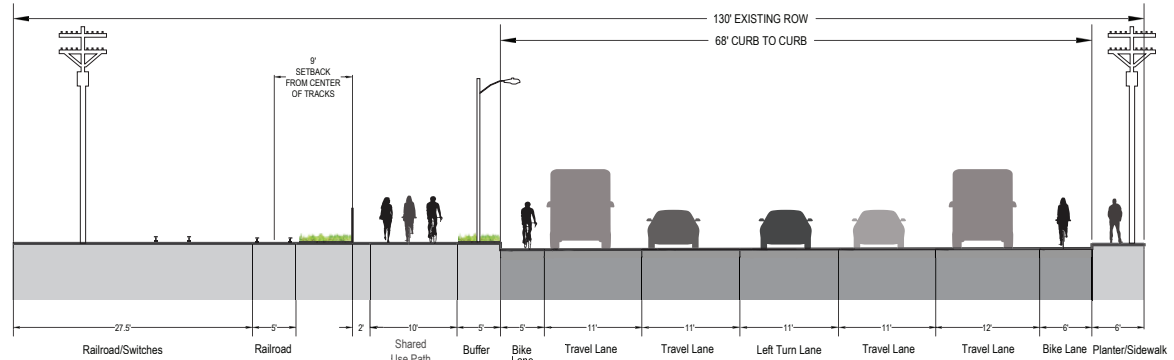
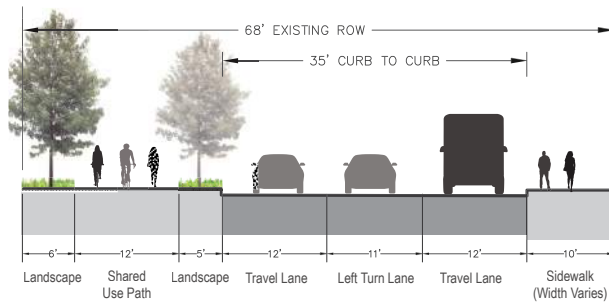


Figure 37 - (EMW4) Ellis Ave S: E Marginal Way S to S Myrtle St



Railroad switches near Ellis Avenue S



E MARGINAL WAY S CONNECTION - NORTH SIDE TRAIL

The North Side trail is a shared use path on the north side of E Marginal Way S. A shared use path provides landscape separation from traffic on E Marginal Way S and opportunities for new street trees. This alignment includes the “Flume” property to reduce the time a user is along E Marginal Way S. New crosswalks are required at the south and east legs of the 16 Ave S and E Marginal Way S intersection to provide access to the north side of E Marginal Way S for users on either side of 16th Ave S. This alignment maintains all travel lanes on E Marginal Way S but reduces through lanes to 11' and the two-way left turn lane to 10'. This option eliminates the existing bike lanes on E Marginal Way S that currently serve trips to the north and south and reallocates the space to provide the shared use path.

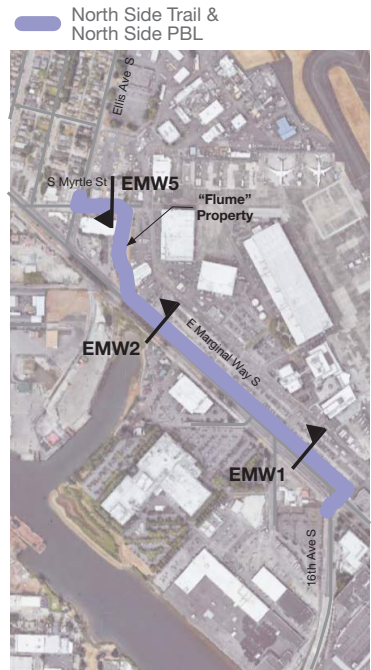


Figure 38 - (EMW1) E Marginal Way S: 16th Ave S to S Webster St

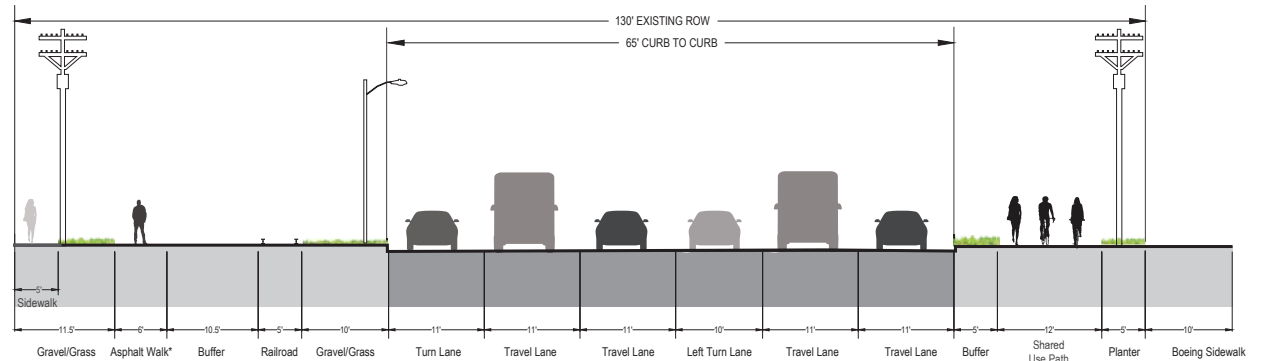


Figure 39 - (EMW2) E Marginal Way S: S Webster St to Ellis Ave S

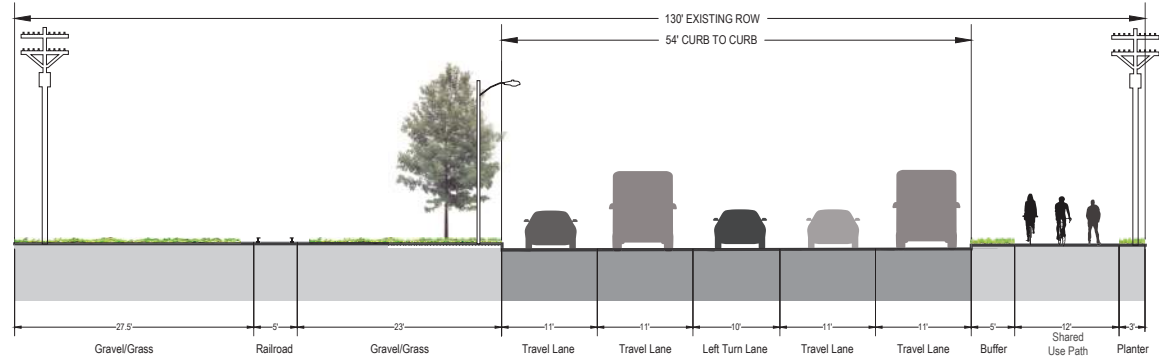
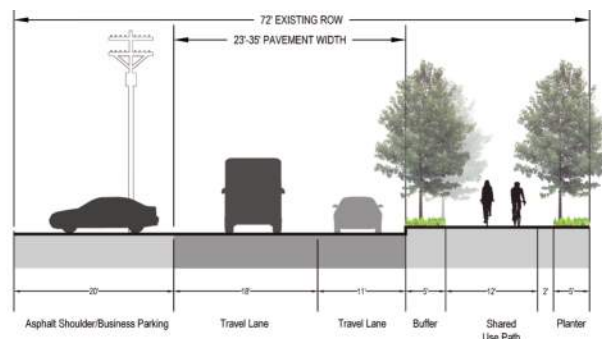


Figure 40 - (EMW5) S Myrtle St: East of Ellis Ave S



E MARGINAL WAY S CONNECTION - NORTH SIDE PROTECTED BIKE LANE (PBL)

This alternative provides a protected bike lane and an improved sidewalk for people walking. Similar to the North Side Trail, this alternative makes use of the "Flume". New crosswalks are required at the south and east legs of the 16 Ave S and E Marginal Way S for users on either side of 16th Ave S. This alignment maintains all travel lanes on E Marginal Way S but reduces through lanes to 11' and the two-way left turn lane to 10'. This option eliminates the existing bike lanes on E Marginal Way S that currently serve trips to the north and south and reallocates the space to provide the protected bike lane.

North Side Trail & North Side PBL

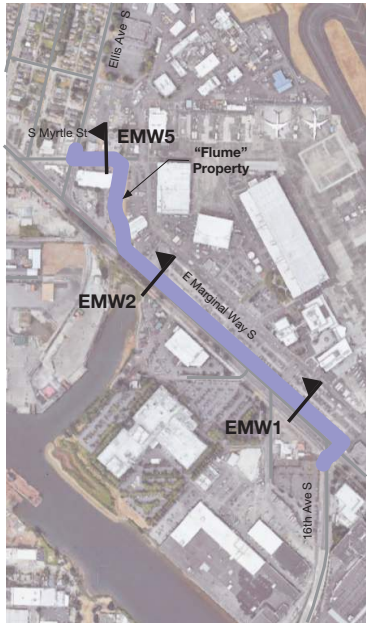


Figure 41 - (EMW1) E Marginal Way S: 16th Ave S to S Webster St

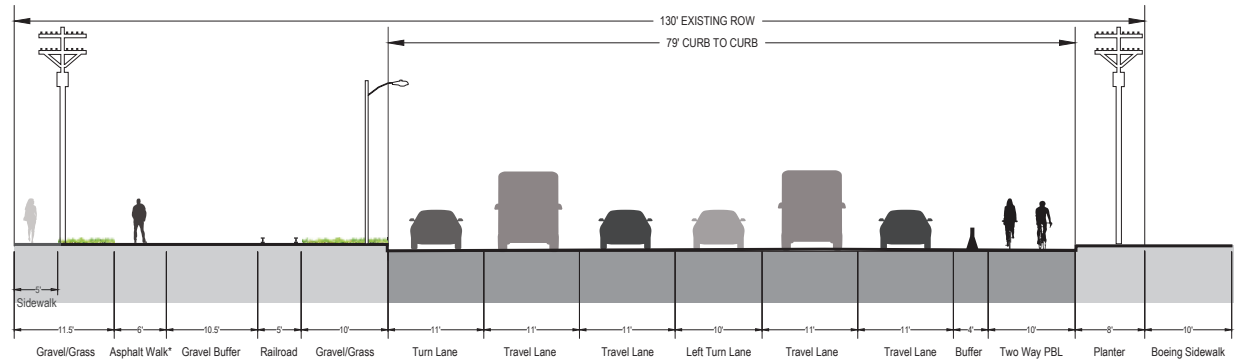
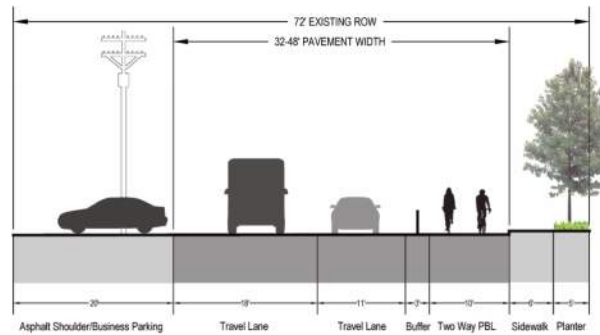


Figure 42 - (EMW2) E Marginal Way S - S Webster St To Ellis Ave S



Figure 43 - (EMW5) S Myrtle St: East of Ellis Ave S



GEORGETOWN CONNECTION

The Georgetown Connection begins at the intersection of Ellis Ave S and S Myrtle St providing a connection to the Georgetown neighborhood center at the intersection of S Bailey St and S 12th St.

The alternatives shown along arterial streets are shown as shared use paths, however, the facility could also be a protected bike lane with an adjacent sidewalk. Where the proposed facility is constrained (e.g. along grade changes and existing utilities along Ellis Ave S and S Albro Pl) the design may require walls, railings, and fences to be rebuilt; a protected bike lane and sidewalk may have greater impact to existing grades, trees and utilities because the full width of the facilities needs to be paved and level. The evaluation of potential alignments discussed later in this report assumes the use of a shared use path along arterial streets.

Alignments and Typical Sections

The following pages document typical proposed cross sections for each of the three alignments listed below.

Through Albro: Provides a shared use path facility

- Ellis Ave S: S Myrtle St to S Eddy St
- S Albro Pl: S Eddy St to 13th Ave S
- 13th Ave S: S Albro Pl to S Bailey St
- S Bailey St: 13th Ave S to Ellis Ave S

Continue on Ellis: Combines a shared use path and greenway connections

- Ellis Ave S: S Myrtle St to S Eddy St – Shared Use Path
- Ellis Ave S: S Eddy St to S Bailey St – Greenway
- S Bailey St: 13th Ave S to Ellis Ave S – Shared Use Path

Greenway: Provides neighborhood greenway

- Flora Ave S: S Myrtle St to S Eddy St
- S Bailey St: 13th Ave S to Ellis Ave S



GEORGETOWN CONNECTION - THROUGH ALBRO

This alternative utilizes Ellis Ave S, S Albro Pl, and 13th Ave S to get users to the Georgetown business district and passes along Ruby Chow Park and the potential future Georgetown Transportation Center (see the Georgetown Mobility Study Report for additional information) on the east side of 13th Ave S. Along Ellis Ave S and S Albro Pl, the existing bike lanes are removed and travel lanes narrowed to 11' to make space for the shared use path. On-street parking is maintained along Ellis Ave S and S Albro Pl.



Figure 44 - (GT1) Ellis Ave S: S Myrtle St to S Eddy St

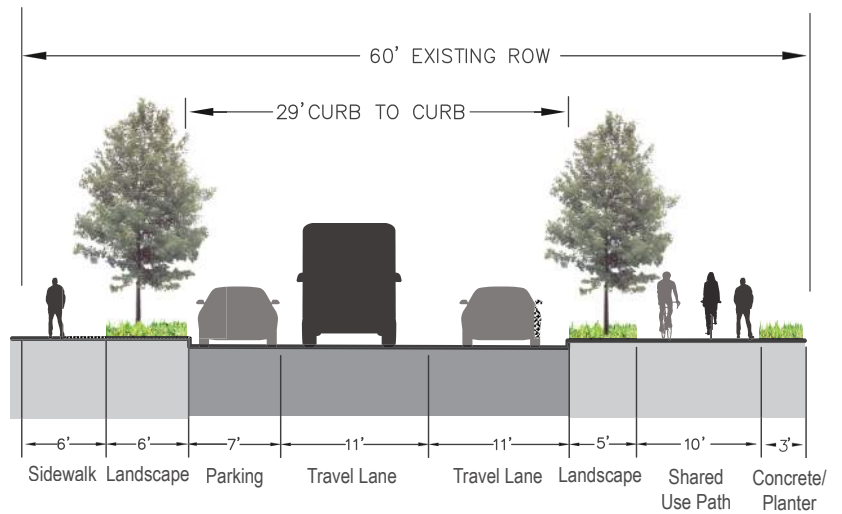
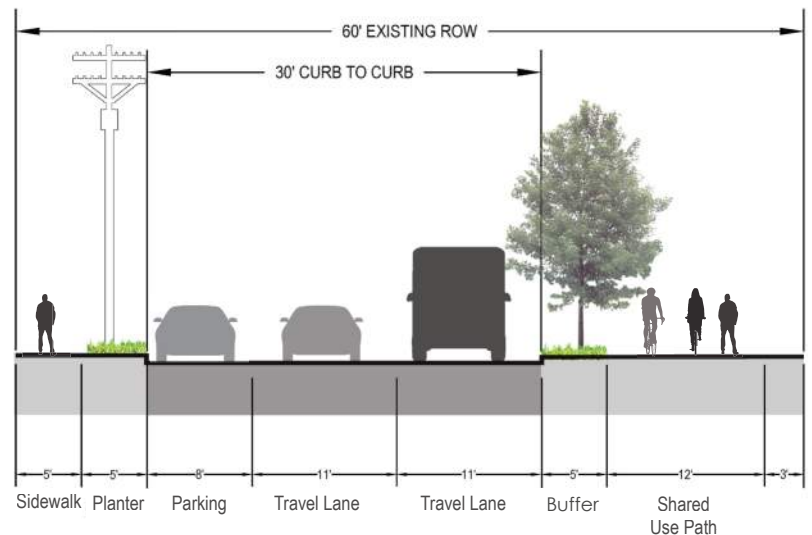


Figure 45 - (GT3) S Albro Pl: S Eddy St to 13th Ave S



GEORGETOWN CONNECTION - THROUGH ALBRO

Existing parking on the west side of 13th Ave S and the north side of S Bailey St would be removed to accommodate the proposed shared use path. On-street parking is maintained on the east side of 13th Ave S and the south side S Bailey St.



Figure 46 - (GT4) 13th Ave S (One-way SB); S Albro Pl to S Bailey St

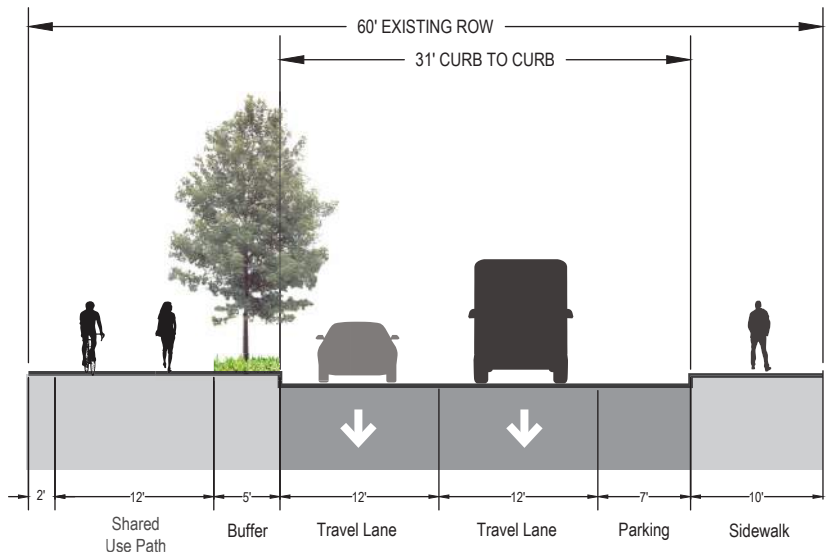
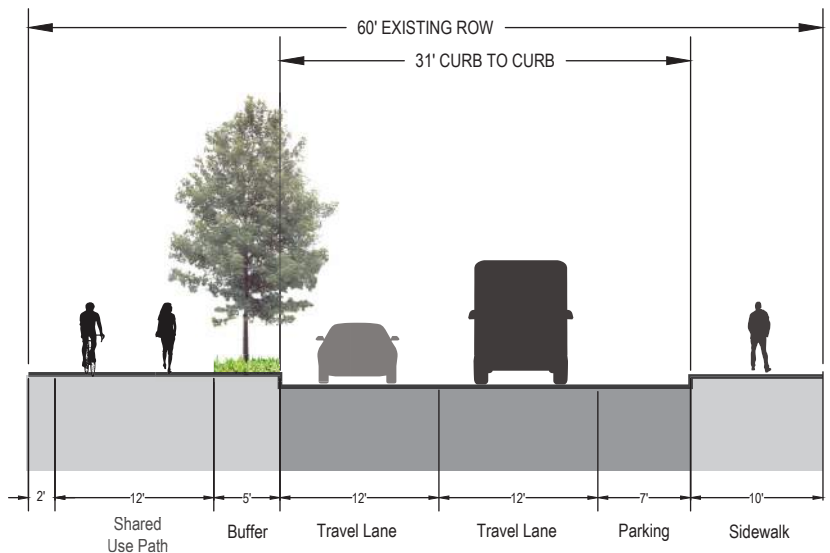


Figure 47 - (GT5) S Bailey St: 13th Ave S to 12th Ave S



GEORGETOWN CONNECTION - CONTINUE ON ELLIS

This route continues on Ellis Ave S for the entire north segment requiring a street crossing at the existing unsignalized intersection of Ellis Ave S and S Albro Pl. Trail users would cross from the east to the west side of Ellis Ave S and continue on Ellis Ave S. North of S Eddy St, the facility type would transition to a Neighborhood Greenway to maintain parking along the neighborhood street. The existing crosswalk would allow people to cross S Bailey St and a shared use path would connect people to 12th Ave S.

Figure 48 - (GT1) Ellis Ave S: S Myrtle St to S Eddy St

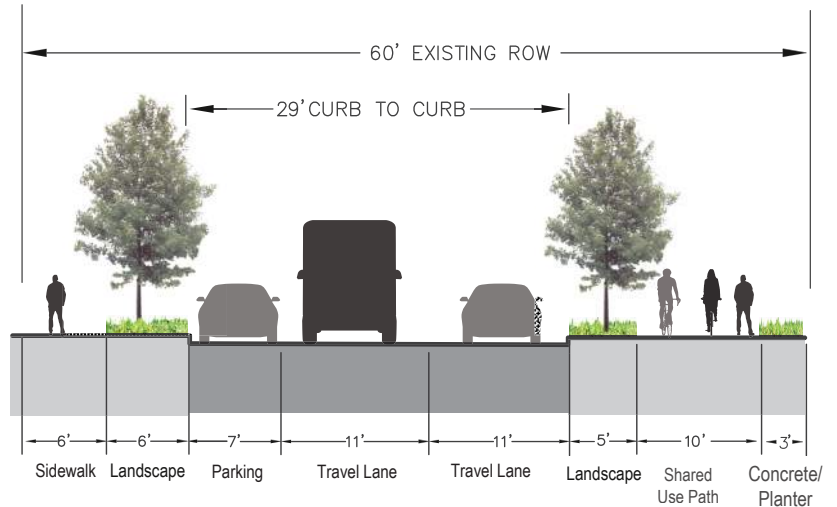


Figure 49 - (GT2) Ellis Ave S: S Eddy St to S Bailey St

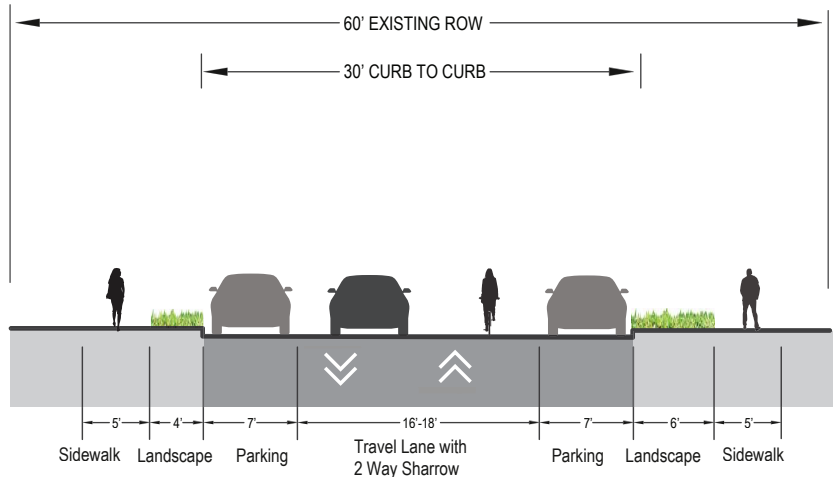
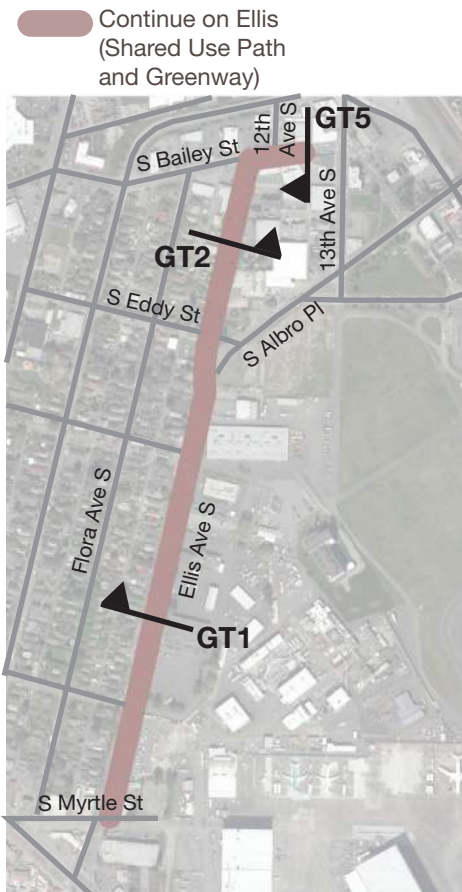
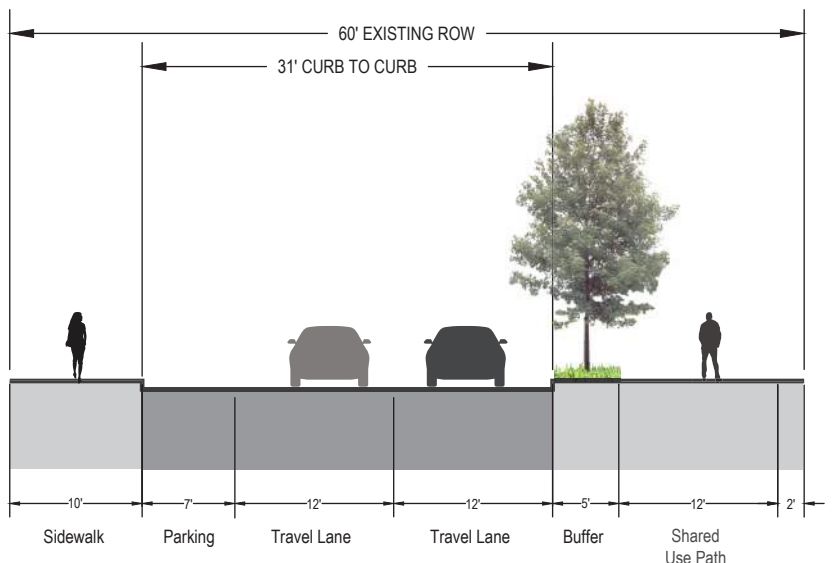


Figure 50 - (G5) S Bailey St: 13th Ave S to Ellis Ave S



GEORGETOWN CONNECTION - GREENWAY

Provides a Neighborhood Greenway connection along neighborhood streets using pavement markings (sharrows), signage, speed cushions, and other traffic calming measures. This alternative maintains parking along the neighborhood greenway streets, but is less direct, using Flora Ave S, S Eddy St, and Ellis Ave S. At S Bailey St, the existing crosswalk would allow people to cross the street and a short shared use path would connect people to 12th Ave S.



Figure 51 - (GT2) Flora Ave S: S Myrtle St to S Eddy St

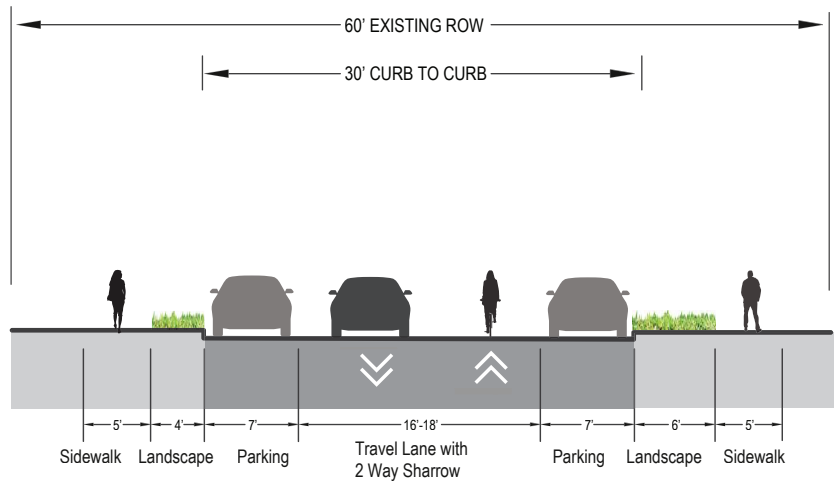
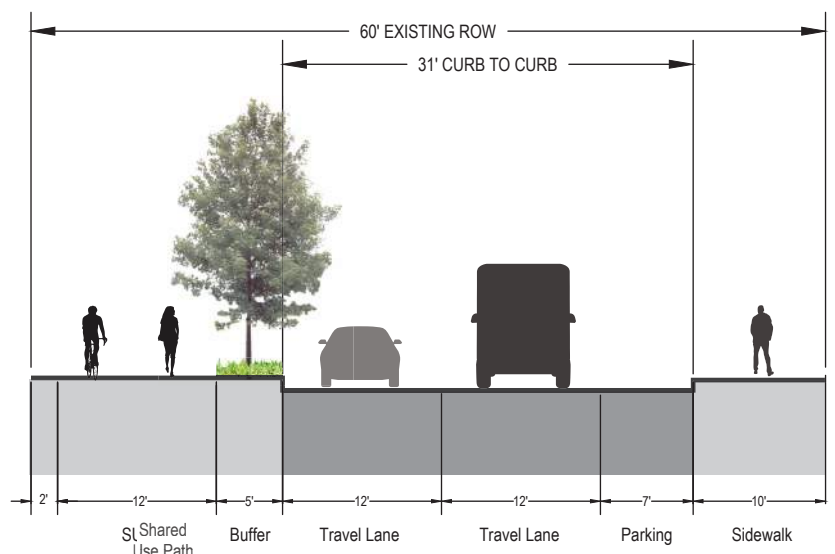


Figure 52 - (GT5) S Bailey St: 13th Ave S to Ellis Ave S



EVALUATION

Potential alignments presented in this report have been evaluated using a comprehensive and holistic approach that considers a variety of items, from quantitative analysis of traffic modeling and potential construction cost estimates to qualitative elements such as user comfort. The categories evaluated include: operations of signals, freight, railroad, transit and parking; coordination with property owners; access/impacts to existing facilities; comfort of non-motorized users; impacts to urban forestry and existing utilities; and the potential cost to implement. Each of these categories included items that were evaluated and rated in comparison to the other potential alignments (see Figure 53 for a full list of the items evaluated); the evaluation determined whether potential alignments positively or adversely addressed existing conditions.

Figure 54 summarize the evaluation of potential alignments. Green circles indicate categories that are supported by or positively addressed by the proposed concept, yellow circles are neutral, and red circles indicate categories that are adversely addressed by the proposed concept. It should be noted that no weighting, or priority, was applied to individual evaluation criteria. The final evaluation has been developed to summarize findings with the community regarding pros and cons for identifying a preferred alignment and facility type.

Figure 53 - List of categories and items included in the evaluation

Operations	<ul style="list-style-type: none"> • Traffic signal operations • Freight movements • Railroad operations • Transit stops and operations • On-street parking
Coordination and Property Impacts	<ul style="list-style-type: none"> • Boeing street frontage • Boeing facilities (parking and distribution center) • Property owners (general) • King County Airport • Fire Department • Railroad
Comfort	<ul style="list-style-type: none"> • All ages and abilities facility provided • Transitions including existing to proposed facility and between varying cross sections • Community perception and directness of the alignment • Separation from Vehicles, Freight and Railroad • Non-motorized Arterial Crossing along the alignment • Non-motorized Driveway Crossings along the alignment
Urban Forestry	<ul style="list-style-type: none"> • Existing trees and opportunities for planting new trees • Existing planting areas and opportunities for planting new planting areas
Impacts to Utilities	<ul style="list-style-type: none"> • Relocation of Seattle City Light power infrastructure • Relocation of franchise utilities • Relocation of street lights, consideration of additional streets lighting • Existing fire hydrants • Stormwater impacts that will trigger permitting requirements • Relocation of existing storm drain
Cost	<ul style="list-style-type: none"> • Cost of constructing the potential alignment

Figure 54 - Evaluation Summary of Georgetown to South Park Connection

Evaluation Categories	South Park Connection		E Marginal Way S Connection			Georgetown Connection		
	West Side Trail	One-Way PBL to Bridge	Trail by the Rail	North Side Trail	North Side PBL	Through Albro	Continue on Ellis	Greenway
Operations								
Coordination and Property Impacts								
Comfort								
Urban Forestry								N/A
Impacts to Utilities								N/A
Construction Cost								

Legend	
	supports/positive
	↑
	neutral
	↓
	adverse

SHORT-TERM OPPORTUNITIES

The next steps for this project include complete design and construction of the preferred alignment along with short-term opportunities for improving connections and access within the project area. This section summarizes a range of short-term opportunities for improving accessibility and safety between the Georgetown and South Park neighborhood centers until a full build of the preferred concept can be achieved.

Wayfinding signage and Neighborhood Greenway route

Until the preferred route and street improvements are provided, the installation of wayfinding signage would improve connections north of E Marginal Way S by providing low-cost opportunities to improve connections and direct people walking and riding bicycles to low speed, low volume streets.

Removing ADA barriers

In the short term, removing existing barriers along the most direct, or preferred route, would assist in providing access to all users. These improvements would include providing curb ramps that meet ADA standards, replacing sections of uplifted concrete in sidewalks, and updating driveway crossings that don't meet ADA requirements.

Investigate feasibility of using 'Flume' property

The 'Flume' property is undergoing a transfer in ownership from Seattle City Light to Seattle Parks and Recreation (SPR), see page 10 for additional information about the 'Flume' property. Because this property is not public right-of-way, the feasibility of using part of the property as a transportation facility should be discussed and coordinated with SPR.



S Bailey St crossing at Ellis Ave S looking west

Improve visibility and signage at S Bailey St crossing at Ellis Ave S

Improve signage and visibility at the existing street crossing by reviewing sightlines, and providing consistent signage for vehicles traveling on S Bailey St from both directions; the east and west approaches currently have different signage. This includes trimming trees that obstruct sightlines and reviewing, and removing or relocating existing traffic signs that impact visibility. Additional crosswalk signs or new rectangular rapid flashing beacons (RRFB) could be considered to replace the existing traffic signs and overhead flashing beacons to increase safety.

Intersection of Flora Ave S and S Myrtle St at E Marginal Way S

This intersection was identified by the community as being a safety concern. The configuration of the intersection, including how Flora Ave S meets S Myrtle St and the proximity to E Marginal Way S, is unique and is perceived as being unsafe by the community. A future study should review opportunities to modify or limit traffic at or through the intersection (e.g. how might the use of a diverter that limits traffic at Flora Ave S to northbound vehicles only improve traffic flow and safety in and around the area).

Crosswalks at E Marginal Way S and 16th Ave S

There are no crosswalks at this intersection. Figure 57, on the following page, shows a concept sketch for adding crosswalks at the south and east legs of the intersection to provide at-grade crosswalks for people walking and riding bicycles. This improvement would allow access from the east and west side of 16th Ave S to the north side of E Marginal Way S.

Opportunities at Albro Triangle

The intersection of S Ellis Ave, S Eddy St, and S Albro PI could be reviewed to improve connections from Ellis Ave S and S Albro PI to the Georgetown neighborhood center and residential areas.

S Albro PI Triangle looking south



S Albro PI Triangle looking north



Figure 57 - E Marginal Way S and 16th Ave S: Concept Sketch

